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LEADING ARTICLES

PARTURIENT SEPSIS.*

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PUERPERAL SEPSIS in abortion and labor at term undoubtedly always existed, though I am convinced that through our pioneer population it was rare compared with the percentage of deliveries. It became a fearful scourge when in the more populous districts the dirty midwife and almost equally dirty doctor attended most of the cases. With the advent of criminal abortion by instrumentation, self-induced or by a professional abortionist, it became frightfully common, and though a large number died, a larger number were permanently invalided.

While many abortions have occurred, and will occur, from cervical laceration, weakness, subinvolution, falls, etc., I am convinced that fatal sepsis was very rare when digital and instrumental genital manipulations and examinations were not done. In other words, spontaneous, unattended abortions and labors at term were almost never fatal from sepsis. Leopold's report of 919 puerperal cases not examined, with only two cases of possible autoinfection, gives strength to this view True some of these cases flooded to the point of almost complete exsanguination, and many of them carried putrid placental tissues and membranes for many weeks, occasionally, were quite sick with fever of a moderate degree and an occasional slight chill, but they did not die. I have, in my earlier practice, seen this condition accompanied by a putrid odor that made it almost impossible to remain in the same room with the patient, and yet they recovered.

Why did they not die? Because they were suffering from a toxic influence due to saprophytic germs which could only live and propagate in dead tissues and whose toxines gained entrance into the circulation and produced constitutional symptoms only when drainage was interfered with and they were forced into the circulation; provided with free drainage, these cases always obtained relief whether placental tissues, membranes and detached necrotic decidua were removed, or not.

The profession rightly presumed that the symptoms were produced by the retention of the secundines and began their removal by finger and curette, and if it were done early, very gently, and no additional and more dangerous germs were introduced by dirty hands and instruments, the patient recovered at once. But many of the cases became suddenly very much worse, curettement was repeated more vigorously under the supposition that the former effort was not sufficiently thorough. In many cases, this resulted in a great increase in the intensity of all symptoms and speedy death. In some cases post-mortem proved the uterus to be free of all secundines and with nothing to show the cause of death except evidences of inflammation of the uterus, sometimes some edema and softening of the uterus and periuterine tissues. In other cases, less virulent, the uterus was extensively softened and numerous abscesses had formed in the uterine muscularis or periuterine structures. In the chronic cases, extensive peritoneal adhesions had taken place. Often in the fulminant cases, bloody serum was found in the peritoneum with but slight changes in the uterus or periuterine tissues. The cause in each case was held to be due to too late removal of the placenta. Later, the suspicion began to overtake the profession

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that manual and instrumental manipulations were responsible for the introduction of germs which were more virulent than saprophytes, and that could pass through and multiply in living tissues as well as circulate in the blood, destroying the vitality of tissues where massed together, producing abscesses when enough time had elapsed, and in other cases, multiplying in the circulatory system so rapidly as to cause death without pronounced microscopical local changes.

We had not then learned, in fact are just now learning, how to cleanse our hands. When they were cleansed, they were reinfected on the way to the interior of the uterus by the bedding, foul labia, hairs on the vulva, etc. The vagina was known to be its own sterilizer if it had a chance to use its own physiological laboratory, but we were taking it at a disadvantage and planting our cultures where they got in their work to the greatest danger to the patient.

In the best maternity hospitals where preparation, position, attendance and dressing can be perfectly controlled, puerperal sepsis has been almost entirely eliminated. While this is true of perfectly ideal surroundings, some infection will sometimes occur, but more especially where the majority of cases are not and can not be placed in ideal surroundings, but every effort should be made to approximate the ideal as nearly as possible

If the infection be saprophytic, we may expect foul odor in which dead tissues in the interior of the uterus, namely, placental tissues, membranes and detached decidua, are attacked. This must of necessity be local and if the infection remains saprophytic, it will not endanger life and the temperature will not likely go very high. It certainly will not if good drainage is maintained. It is a well-known fact that dead tissues, that is, necrotic fetus, may remain in the uterus indefinitely without infection.

The next degree of severity of infection will result from anerobic bacilli, at the present time the least perfectly understood. In this connection should also be mentioned the bacillus aerogenes capsulatus and bacillus of malignant edema. While saprophytic bacterial infection must attack and live on dead tissues, being unable to invade living tissues, it will not markedly soften or disintegrate the uterine structure. It is in this variety of infection only that clean curettement may be done without danger. The anerobic bacilli may be, in fact are, able to penetrate somewhat into the living tissues and one or two deaths have been attributed to infection of this nature, while streptococci, staphylococci, colon bacilli, bacilli of diphtheria and typhoid can also invade living tissues. Infection with streptococcic germs is especially virulent, but is sometimes mixed with staphylococcus. Examinations of patients in maternity hospitals by Professor Edgar revealed the fact that the upper part of the vagina showed no pyogenic germs. This was true to the entroitus except where germs had been introduced less than forty-eight hours previous. It was found that some pyogenic germs would live four days in the upper vaginal secretions, but in forty per cent of the cases examined by the same author, in the same emergency hospitals, the vulvar canal below the entroitus contained pyogenic germs. It therefore becomes necessary that physicians should not only as thoroughly as possible sterilize their hands, but that external genitalia should also be thoroughly cleaned up to and including the vulvar entroitus before anything is carried high up in the vagina, because of the liability of contamination by pyogenic germs on fingers or instruments. If this be done by every physician with every possible care, there yet remains the possibility of infection by sexual indulgence up to and even including the commencement of labor. If this takes place, there is no question that in some cases it will be the cause of infection in cases otherwise treated by skillful and painstaking obstetricians.

When we have eliminated the two principal pyogenic germs, there yet remains to be considered the greatest scourge and most resistant of all, the diplococcus of gonorrhea, so that, in spite of all care, we will occasionally, because of germs in the vaginal canal viable at the time of labor or introduced by self-examination of the patient, by the hand of the obstetrician or his instruments, come into contact with various infection agencies and we must be prepared to deal intelligently with them and, if possible, exclude the production of uterine and periuterine phlebitis, puerperal metastic pyema, septic pneumonia, septic endocarditis, septic arthritis, phlegmasia alba dolens, pelvic cellulitis, and pelvic peritonitis or perimetritis, as well as the milder saprophytic intoxications involving only dead tissues within the uterus. This form should be called sapremic intoxication, not infection.

Prevention must always be the most important treatment. No instrumentation in any variety of puerperal sepsis should be considered which denudes the uterine mucosa and opens up tissues not in any sense protected from septic infection, the utmost gentleness being used to avoid any possibility of puncturing the softened or disintegrated uterine wall. The curette, I believe, in such cases should never be used, certainly not a small

or sharp one, and then only in the least serious of these cases, namely, saprophytic intoxication which is not sepsis.

The use of antipyretics, which depress the heart action and interfere with the oxygenizing process of the blood, can scarcely ever be indicated, sponging and cold packs, when the temperature runs high, being much safer. Cool or cold water bottles are best of all. The use of antistreptococcic serum, while it acts like magic in some cases, will prove entirely worthless in others, can do no harm, and is, therefore, always indicated.

Streptococcic and staphylococcic puerperal infections have, on the manifestations of symptoms, passed beyond all possible reach of removal by any form of currettage. While curettement can do no good, it may do much harm in disseminating infection, and in uterine perforation. This latter element is important because I have known cases in which perforation of the uterus was done by a man of several years' experience and above the average in ability; by another of very large experience and national reputation, noted for care in operations and original research, and by five men of international reputation, one of whom had previously declared that the penetration of the uterus with the curette was a crime, and at his next operation of this kind, put the curette through the uterine wall. Within the last two and a half years, I have operated upon four cases of puerperal sepsis illustrating the dangers of curettage. The first was five weeks after delivery in which the uterine wall was honey-combed in every direction on one side, and I could put my finger through without meeting with marked resistance. In this case, I did a complete hysterectomy and lost my patient in three days. A few weeks later, I operated on a second case and found that I could run my finger through the uterus with great ease. In this case, I removed the adnexa on the side that was most damaged, and passed drainage tubes through the posterior wall of the vagina surrounding them with an abundance of gauze. Abscesses in the uterine tissue were freely drained out into the vagina through the cervix, or by way of gauze and tube drain through Douglas' cul-de-sac. This patient recovered without special incident and remains well at the present time, two and a half years after the operation. I believed it safer in this case to provide drainage and leave the uterus and adnexa badly damaged than to run the risk of further spread of septic infection and lessened resistance of my patient by a heavier operation.

In my third case I operated in almost the identical manner of the second case, except that the operation was done in stages, owing to the critical condition of the patient. Evacuation was done first through the uterus and vagina by dilating the cervix and pus tracts in the uterine wall. Three weeks later, I made a suprapubic incision and drained through the posterior vaginal vault, as well as above the pubes with through and through drainage, removing the right adnexa, which were suppurating. The uterus in this case, as in previous ones, was readily punctured by the finger. Recovery was tedious but complete now after eighteen months.

In my fourth case, that of Mrs. P. S., aged 36 years, the family history was negative, she had had no serious illness, was the mother of a child born nine years ago, had had two miscarriages, the first one two years ago and the second one four months ago. Her general health was good until the abortion in December, 1904, since then she had not been well. Locomotion was interfered with from pain and weakness through the lower abdomen. Examination was negative as to heart, lungs and upper abdomen. Her pulse was 96, full, soft and regular; temperaure $99\frac{2}{5}$. Examination revealed cervical and perineal laceration, retroflexion with prolapse of uterus. The uterus was found to be large and tender with preternatural immobility from inflamed exudate about it; the cervix was patulous. I did a curettement, and while carefully cleaning the fundus, the curette passed through the soft uterine tissues into the peritoneal cavity. I repaired the perineum and opened the abdomen, finding the perforation on the anterior portion of the fundus. The ovaries, tubes, bladder and rectum were united in a mass of adhesions with pus sacs and both tubes were dilated with pus an inch in diameter. A complete panhysterectomy was done, recovery was uneventful, though the operation taxed her endurance pretty severely. On July 15th, there was slight cystitis, renal elimination was below normal and there was some nervous disturbance, evidently due to the removal of the adnexa. Diuretics and powdered ovarian substance gave immediate relief. On Sept. 4th, the annoyance from heat flashes and frequent urination as greatly relieved, she had gained twenty pounds in weight, and gave every appearance of being in perfect heatlh.

In view of the history of these cases, and the conditions found at the time of operation, I have realized with greater force than ever before what I previously believed, that curettement in such cases exposes the patient to greater dangers and removes no risk whatever. The greatest danger in the management of these cases has seemed to me to be indiscriminate curettage and failure on

the part of the practitioner to differentiate between the putrid intoxications, due to retained placental tissues, when the patient is in the least danger, the uterus is not softened and curettement is least dangerous, and the cases of streptococcic or staphylococcic infections when the curettement can do no possible good, and is fraught with the greatest danger to life. If this paper shall have caused more care in the differentiation, and less indiscriminate use of the curette in puerperal cases, it will have accomplished its purpose, and I am sure it will have saved lives.

THE NERVES OF THE GENITAL TRACT —NERVI TRACTUS GENITALIS — A. ANATOMY. B. PHYSIOLOGY.

BYRON ROBINSON,

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A. ANATOMY.

THE origin of genital nerves are: I, nervus vasomotorius (sympathetic — abdominal brain); II, spinal cord (medulla spinalis), through rami communicantes and rami nervorum sacralium (II, III, IV), cerebrum (vagi).

The three major nerve streams to the tractus genitalis are: (a) the plexus interiliacus (which is a continuation of the plexus aorticus) originating in the abdominal brain; (b) the plexus ovaricus originating from the whole plexus aorticus; (c) plexus sacralis spinalis (rami nervorum sacralium—II, III, IV). The minor nerve streams to the tractus genitalis are: (d) lateral lumbar ganglia (truncus nervus lumbales vasomotorius); (e) lateral pelvic ganglia (truncus nervus pelvis vasamotorius); (f) nerves of the uterine artery (nervi arteriae uterinae); (g) nerves of the hypogastric artery (nervi arteriae hypogastricae) richly demonstrated in infant cadavers. Also nerves of the round ligament and hemorrhoidal arteries.

Practically the nerves supplying the tractus genitalis are solidly and compactly anastomosed connected with the whole abdominal vasomotor nerves (sympathetic), especially with the giant ganglion coeiliacum —the abdominal brain—the great assembling center of the vasomotorius abdominale or sympathetic nerve plexus. The anastomosis or connection of the genital nerves to the nervus vasomotorius (sympathetic) and cerebro-spinal is vast and profound. The order of solidarity or compactness of anastomosis or profundity of connection of the vasomotor nerves (sympathetic) to the abdominal viscera is the following, viz.: (A) nervus vasomotorius to the tractus vascularis (blood and lymph vessels); (B) nervus vasomotorius to tractus intestinalis; (C) nervus vasomotorius to tractus gentialis; (D) nervus vasomotorius to tractus urinarius. However, all the abdominal viscera are solidly and compactly anastomosed, connected to the central abdominal sympathetic or vasomotor nerve that no one visceral system can become disturbed, deranged, without affecting profoundly all other viscera systems. The derangement arises in the several abdominal visceral systems caused by irritation or disease in any one abdominal visceral system is produced by reflexes, resulting in the disturbed common visceral function—peristalsis, secretion, absorption sensation. So far as I am able to observe the reflexes or irritation in the tractus genitalis produces the most profound and vast derangement of function in other abdominal viscera of any single visceral system, e.g., irritation, disease in the tractus genitalis passes to the abdominal brain (over the plexus interiliacus and plexus aorticus) where it is reorganized and emitted to the tractus intestinalis or tractus urinarius deranging the common function of peristalsis (rhythm), secretion sensation and absorption— causing deficient, excessive or disproportionate peristalsis, secretion or absorption. The older anatomists like the philosophic Willis (1622-1675) who was the Sedlian professor in Cambridge talked that the nerves supplying the tractus genitalis arose from the intercostal nerves (that is by means of the rami communicantes, truncus vasomotorius— lateral ganglionic chain and nervi splanchnici). This is as true today as in the days of the ever memorable Willis, however, we ascribed today more to independent, more differentiation to the vasomotor nerves (sympathetic) than did Willis. These so-called intercostal nerves (rami communicantes) form a nervous center—the abdominal brain—secondarily to the cranial brain which has differentiated functions of the first magnitude as regards existence of life itself. Hence, today we are inclined to believe from experimentation and clinical data that the chief origin of the nerves of the tractus genitalis is the abdominal brain—cerebrum abdominale and since this giant ganglion controls the vascular supply of the abdominal viscera it should be termed cerebrum vasculare abdominale. In the consideration of the nerve supply of the tractus genitalis is favorable for convenience of description and practical purposes to present a major and minor nerve stream. The following table presents in a bird's-eye view the major and minor nerve supply to the genital tract:

MAJOR NERVE SUPPLY.

A. Plexus interiliacus (sympathicus).
B. Plexus ovaricus.
C. Plexus sacralis spinalis (rami nervorum sacralium).

MINOR NERVE SUPPLY.

D. Lateral lumbar ganglia (truncus nervus sympathicus lumbales).
E. Lateral pelvic ganglia (truncus sympathicus sacrales).

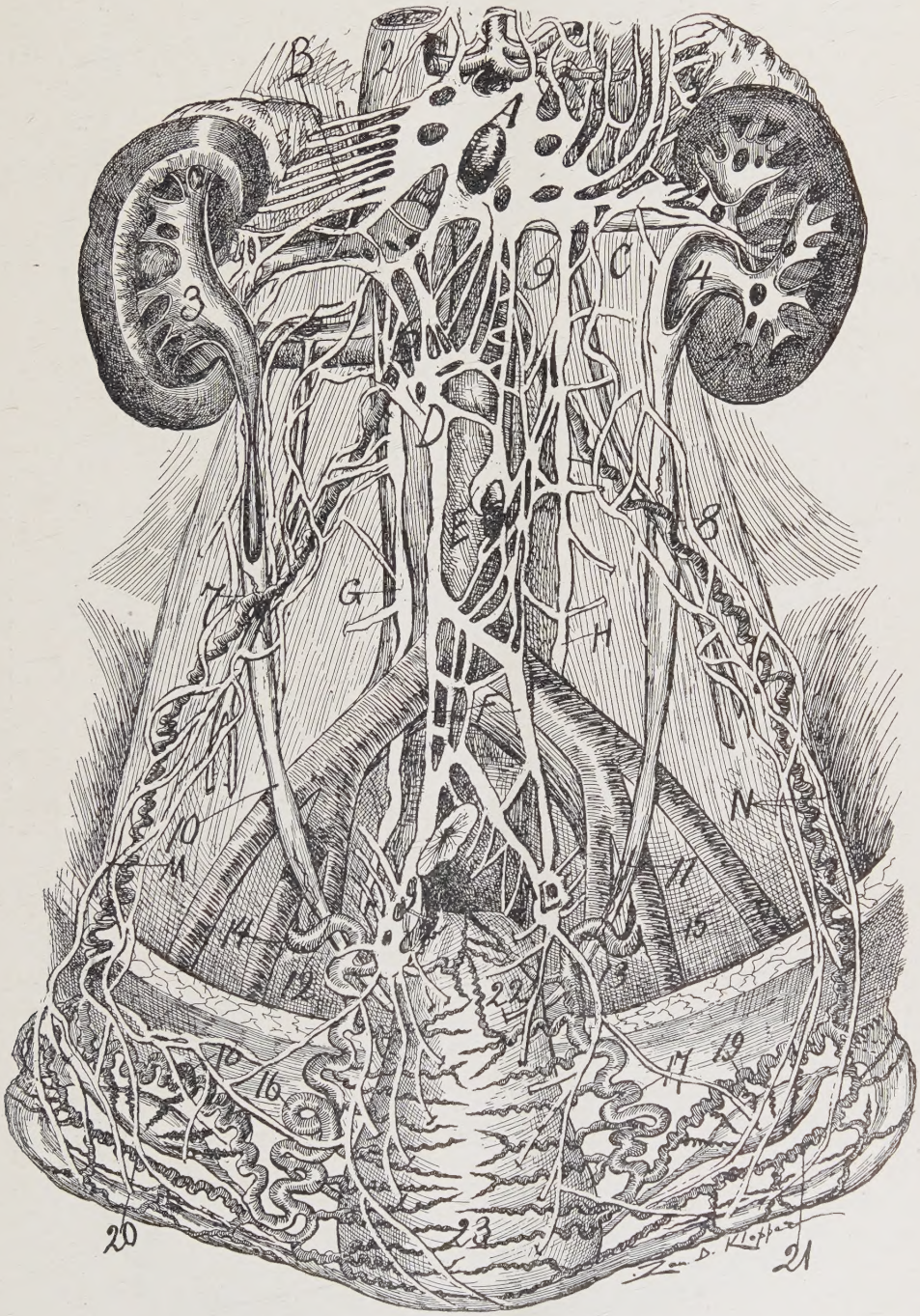

FIG. 1.—NERVES OF TRACTUS GENITALIS PREGNANT ABOUT THREE MONTHS.

This illustration presents the nerves on its genital vascular circle at about three months gestation. The uterus is drawn distalward exposing its dorsal surface. A, abdominal brain. The pelvic brain is poorly represented. The plexus ovarices is carefully presented.

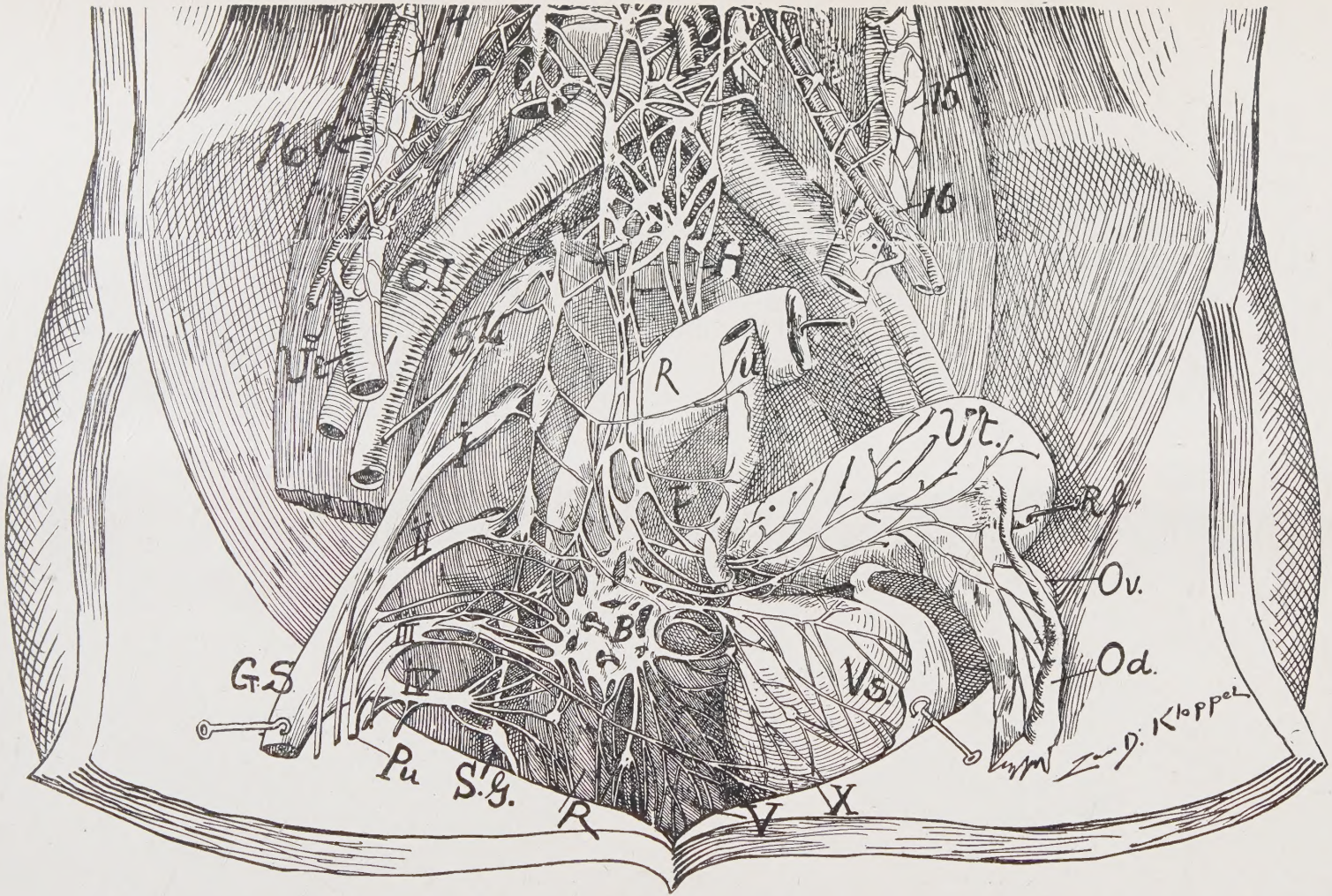

FIG. 2.—ADULT PELVIC BRAIN.

An illustration of the pelvic brain (B) and the nerve supply in the pelvis uretus and bladder. The nerves supplying the ureter are from (a) the I sacral ganglia (see u on ureter); (b) hypogastric plexus (at P); (c) the III sacral nerve (at X); (d) the pelvic brain (at B). The pelvic brain (B) ends the plexus uterinus plexus vaginalis, plexus rectalis. Suggestions for this drawing were gained from Frankenhausen. Ut, uterus; Vs. bladder; Ov, ovary; Od, oviduct; GS, great sciatic nerve; 5L, last lumbar nerve; I, II, III, IV, sacral nerves.

F. Nerves of the uterine artery (nervi arteriae uterinae).

G. Nerves of the hypogastric artery (nervi arteriae hypogastricae).

H. Nerves of the round ligament artery (nervi arteriae ligamenti rotundi).

I. Nerves of the hemorrhoidal artery superior et medius (nervi arteriae hemorrhoidalis superior et medius).

The major nerve supply consists of (A) plexus ovaricus; (B) plexus interiliacus (vasomotorius); (C) plexus sacralis spinalis rami nervorum sacralium (II, III, IV).

(A) PLEXUS OVARICUS.

Origin.—According to my dissection the main origin of the ovarian nerves is from the ganglion ovaricum proximal, a definite ganglion of irregular form and dimension located at the origin of the arteria ovarica on the aorta. However, the plexus ovaricus arises also from the adjacent regions in the plexus aorticus both proximal and distal to the ovarian ganglion especially it may be noted that the renal ganglia contribute ovarian nerves. Frankenhauser (1867) in one of his tables marks the origin of the ovarian nerves extending from the root of the arteria renalis to the interiliac nerve disc located on the sacral promontory. He notes the ovarian nerve composed at the origin of some twelve separate strands, and as they pass distalward on the vasaovarica coalesce into three main trunks, studded with ganglia. In dissecting it will be observed that the ganglia renalia and ganglia ovarica are closely associated in a solidly, fenestrated, network indicating identical origin from the Wolffian body. I could not discover such an abundant ovarian nerve supply neither from such an extensive area of the plexus aorticus, as reported by Frankenhauser. However, the explanation may lie in the fact that Frankenhauser dissections were from non-pregnant and infant genitals. The sections disclosed large numbers of nerve fibres originating in various regions from the plexus aorticus, especially the ganglia renalia and ganglia ovarica proximal and directing themselves toward the vasaovarica coalesce into some three nerve trunks. The ovarian nerves coerce with the ovarian vessels forming an elongated wide network studded with nerve ganglia limited in number and dimension and located at the crossing, junction of the nerve strands.

The ovarian nerves arise from the ganglion ovaricum proximal in the form of a plexus or a leash which accompanies and ensheaths the arteria ovarica to the union with the vena ovarica where both vein and artery share more equally the attention of the ovarian nerves. The plexus ovaricus in general arises from the following ganglia, viz.: (a) ganglion ovaricum (proximal); (b) ganglia renalia; (c) ganglion mesentericum inferior; (d) ganglia lumbalis. The above ganglia are solidly and compactly connected with the ganglion coeliacum.

(*Note.*—It should be remembered that the numerous pains of which woman complains as being in the ovaries are not located in the ovaries, but reside in the cutaneous distribution of the ileo-inguinal and ileo-hypogastric nerves. It is hyperesthesia of the skin.)

The plexus ovaricus arises from the following plexuses: (a) plexus aorticus; (b) plexus renalis; (c) plexus mesentericus superior; (d) plexus mesentericus inferior; (e) plexus ureteris (where the vasa ovarica cross ventral to the ureter the plexus ovaricus become anastomosed with the plexus ureteris, further solidly anastomosing the plexus ovaricus with the plexus renalis); (f) plexus interiliacus; (g) the plexus ovaricus receives branches form the genito-crural nerve, again solidly anastomosing the plexus lumbalis (spinal) with the plexus ovaricus (sympathetic).

Course.—The plexus ovaricus accompanies the vasa ovarica in their extended journey to the pelvis in erect animals in the form of sheathed network of nerves with extremely elongated fenestra. The plexus ovaricus in its course is studied with spare ganglia of various size. The nerves of the plexus, like many other sympathetic plexuses, are cylindrical—not flat like those of the plexus uterinus—and retain their calibre throughout their course. Toward the distal end of the vasa ovarica the vein and artery become more branched, occupying more space whence the plexus ovaricus divides its branches to accompany the additional vessels. The distal end of the plexus ovaricus divides and supplies: (a) the ovary; (b) the oviduct; (c) ligamentum latum; (d) the lateral border of the uterus; (e) it anastomoses with branches of the plexus interiliacus.

(B). PLEXUS INTERILIACUS (VASOMOTORIUS.)

The interiliac plexus extends from the interiliac nerve disc to its union with the sacral nerves of the cervico vaginal junction. It is the major nerve supply of the genitals. It is elsewhere described in detail.

(C). PLEXUS SACRALIS SPINALIS (RAMI NERVORUM SACRALIUM).

The second, third and fourth sacral, spinal nerves emit branches (pelvic splanchnics) which join, coalesce, with the distal branches of the interiliac plexus to form the pelvic brain (ganglion cervicale—which issues the white rami communicantes) practically the

plexus uterinus, plexus vesicalis, plexus rectalis, plexus vaginalis, plexus clitoridis, plexus pudendalis. The spinal sacral nerves passing to the pelvic brain gave rise to the idea that they supplied the cervix uteri, and that they are sensory nerves of the uterus. So far as I have been able to observe all branches of the sacral spinal nerves first enter the pelvic brain before passing to the uterus and vagina. One nerve from the second sacral passes directly to the bladder without first passing through the pelvic brain. The branches of the sacral nerve passing to the pelvic brain, very in number, origin, arrangement, length and dimension. They are the most accurately demonstrated in infant cadavers preserved in alcohol. The blending or coalescence of the branches of the sacral nerves (pelvic splanchnics) (i to iv) with the distal branches of the plexus interiliacus (vasomotorius) results in the pelvic brain—a plexiform, multiple, nodular ganglionic nerve mass located where the rectum joins the cervico-vaginal junction and being of irregular form, dimension, weight. The pelvic brain is practically the source of the genital nerves. The minor nerve supply of the tractus genitals consists of D, E, F, G, H, I.

D. The lateral lumbar trunk ganglia send nerves to the plexus aorticus and plexus interliacus.

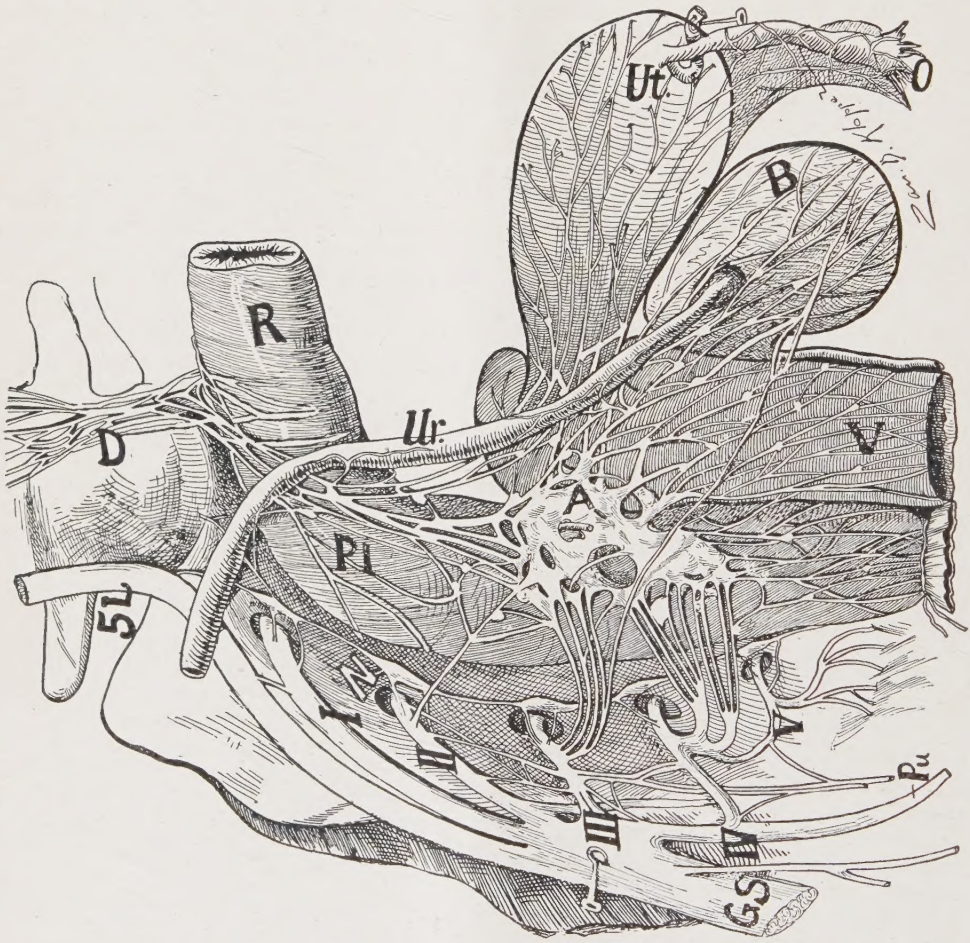

FIG. 3.—PELVIC BRAIN OF ADULT.

B, bladder; V, vagina. This illustration is drawn from my own dissection executed under alcohol. I, lumbar nerve; I, II, III, IV. sacral nerves; V, coccygeal nerve; GS, great sciatic: Pu, pudic nerve; A, pelvic brain; D, interiliac disc: R, rectum; P. I, plexus interiliacus. Observe that two distinct nerve strands arise from the plexus interiliacus and pass directly to the uterus without first passing through the pelvic brain. Ur, ureter; Ut, uterus; B, bladder; V, vagina. Note the smaller ganglia adjacent to the pelvic brain on the pelvic viscera.

(E) The lateral pelvic trunk ganglia send nerves to the genitals by way of the pelvic brain. It sends nerves to the distal ureter.

(F) The nerves accompanying the internal iliac artery continue their course over the arteria uterina as the nervi arteriae uterinae.

(G) The nerves of the hypogastric artery (nervi arteriae hyposagtricae) carries larger

numbers of nerves to the genitals in the infant. It also emits branches to the ureter and bladder. With atrophy of the hypogastric artery many nerves fade with the artery.

(H) Nerves of the round ligament artery (nervi arteriea ligamenti rotundi) pass from the external common iliac artery to join with the plexus ovaricus and plexus uterinus.

(I) Nerves of the hemorrhoidal artery superior and medial (nervi arteriae hemorrhoidalis superior et medius) emit nerves to the genitals. It will be observed that the major and minor nerve supply of the genitals is so extensive, so solidly and compactly anastomosed that severing the genital nerves for experimentation is incompatible with life, and consequently reports of such experiments are of limited value only.

THE PLEXUSES OF THE PELVIC BRAIN.

The pelvic brain practically emits the nerves to the pelvic viscera, but especially the plexuses of the genital tract. The table represents the scheme

Plexuses of the Pelvic Brain.—1. Plexus uterinus. 2. Plexus vaginalis. 3. Plexus vesicalis. 4. Plexus rectalis.

1. *The plexus uterinus* is emitted to the uterus from the pelvic brain. In infant cadavers I have counted as many as eight different strands of nerves passing from the pelvic brain to the uterus. In the infant cadavers one can observe several nerves passing from the pelvic brain over the external border of the ureter to penetrate finally the myometrium. The first proposition to assert is that the uterus is practically supplied by two plexuses, viz.: (a), the plexus interiliacus (hypogastricus) sends one (two or three) branches directly to the uterus without first entering the pelvic brain; (b) the plexus uterinus which passes directly from the pelvic brain to the uterus where it anastomoses with the branches of the plexus interiliacus. Hence the uterus is supplied by branches of the plexus interiliacus directly from the abdominal brain and the plexus uterinus directly from the pelvic brain—leaving the abdominal brain as the chief ruling potentate of the abdominal viscera, while the pelvic brain is a subordinate, local, ruler of the pelvic viscera. The plexus uterinus accompanies the uterine vessels in general only—not in particular like the intimate relation of the plexuses of the abdominal brain to its visceral vessels. The plexus uterinus presents large, strong branches to the cervix uteri which is unusually rich in nerve supply. The order of richness of nerve supply to the uterus is (a) cervix, luxuriant; (b) corpus, rich; (c) fundus uteri, abundant. The form of the nerve supply to the uterus imitates it—fan-shaped. In the illustrations of the nerves of the uterus what is presented is the main superficial branches of the plexus interiliacus and plexus uterinus which accompany the major uterine arteries the most intimately along the lateral uterine borders (see figure 3).

The branches from the plexus interiliacus (one to three) is distributed on the dorsal wall of the crevix becoming distributed on the dorso-lateral border of the fundus uteri, where they anastomose with the branches of the plexus ovaricus at the junction of the uterus and oviduct, where is located (especially marked in infants) a ganglion. The dorsal surface of the fundus also receives numerous branches from the branches of the plexus interiliacus. Finally the branches directly from the plexus interiliacus (which is directly from the abdominal brain through the plexus aorticus) supply strong, large nerves which are richly distributed to the cervix, corpus, fundus and oviduct. They anastomose solidly and compactly with the plexus ovaricus and plexus uterinus from the pelvic brain. The plexus uterinus—major nerve supply to the uterus—originates in the pelvic brain. The plexus uterinus like the plexus interiliacus approaches the uterus from the neck and lateral border. This leash of ganglionated uterine nerves from the cervico-uterine ganglion in contradistinction to the branches of the plexus interiliacus, supplies the ventro-lateral border of the uterus, and courses more intimately in relation with the uterine segment of the utero-ovarian artery. Many of the large nerves of this plexus are superficial simulating the superficial position of the artery. As the branches of the plexus interiliacus (direct from the abdominal brain) richly supply the dorsal surface of the surface, ccrpus and fundus uteri so that the plexus uterinus (directly from the pelvic brain) luxuriantly supplies the ventral surface of the cervix, corpus and fundus uteri. Branches from the vesical ganglia pass to the plexus uterinus, thus aiding to make the uterus and bladder act clinically as one organ. The solidly anastomosed plexuses of the uterine nerves continually increasing their area of distribution and their number of multiplying peripheral branches as they proceed toward the fundus, finally sends branches to anastomose with the plexus ovaricus, especially at the oviductal junction, where lies a on appears to be the nerve center from which marked ganglion. This utero-oviductal gangli- radiate nerves to the fundus uteri and distal oviduct as well as to the muscular plates lying in the ligamentum latum. The entire uterus is surrounded and traversed by a closely woven network of ganglionated nerve

plexuses. The microscope ganglia are most numerous in the region of the cervix, especially adjacent to the pelvic brain. The uterus is abundantly and luxuriantly supplied by vasomotor sympathetic nerves from which could we dissolve the substance of the uterus, leaving the network, they would appear like a spider's web. It must be remembered that the uterus is a coalesced organ, and hence the adult nerve supply is a complex affair resembling the adult circulation, which is most extraordinarily demonstrated by corrosion anatomy.

2. *Plexus vaginalis* is emitted from the pelvic brain to the vagina. The vaginal plexus is a rich leash or ganglionated plexus

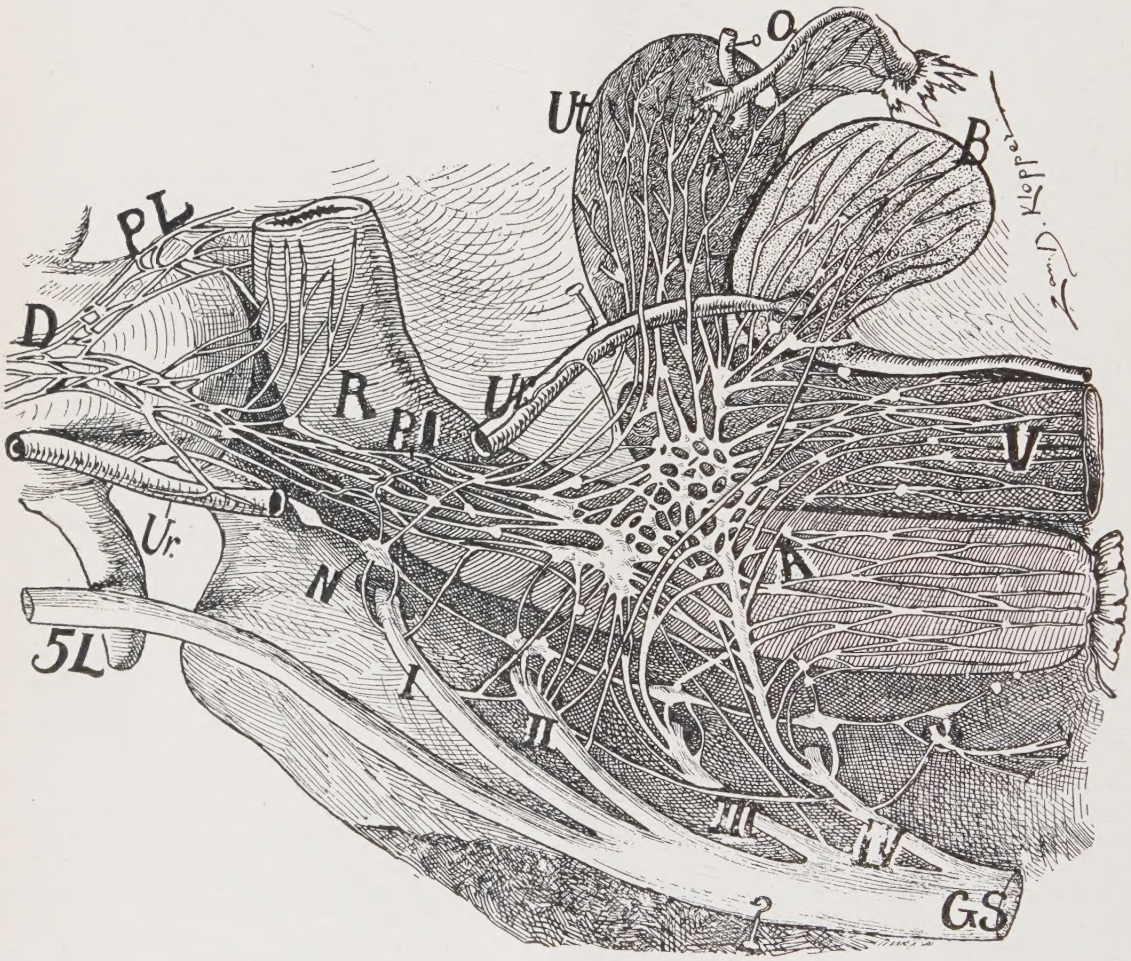

FIG. 4.—PELVIC BRAIN OF AN INFANT.

A, pelvic brain; B, plexus vesicalis; V, plexus vaginalis; I, II, III, IV, V, sacral nerves with the sacral ganglia; N, plexus (hypogastricus); Ur, ureter; B, bladder; V, vagina; R, rectum; O, oviduct; Ut, uterus; 5 L V, lumbar nerve; D, interiliac nerve disc.

The pelvic brain in this infant viewed with a lens presents the afferent nerves arriving from the plexus interiliacus (PJ) nervi sacrales, ganglia sacralia mainly as single nerve cords, at most slightly plexiform at the distal end of the plexus interiliacus. With a magnifying lens the efferent nerves of this pelvic brain (plexus rectalis, vaginalis, vesicalis, uterinus) resemble luxuriant leashes (cat o' nine tails) or richly ganglionated plexuses. The pelvic brain in this subject has the following efferent leashes: (a), the plexus rectalis presents some seven emissions of large nerves coursing distalward on the rectal wall richly supplying the rectum. It has the most limited number of nerve trunks and ganglia of any of the efferent leashes of the pelvc brain; (b), plexus vaginalis presents some eight emissions of large strong nerves for the vagina. The nerve supply to the vagina (plexus vaginalis) a richly ganglionated plexus appears more luxuriant, enormous, profound than that of the uterus because it is more on the surface, more apparent to the lens and unaided eye, The ganglionated plexus vaginalis surrounds the vagina from the proximal to the distal and with a mighty network which in its richness resemble the network of cords surrounding a rubber ball. The proximal end and the ventral vaginal wall is the most richly supplied; (c), the plexus vesicalis presents some six emissions of large strong nerves for the bladder (besides a large strong nerve which arises from the II sacral and passes directly to the bladder. The bladder is richly supplied by an extensive ganglionated plexus; (d), the plexus uterinus presents some twelve emissions of large nerves passing from the pelvic brain to the uterus. With a lens one can count five of the trunks of the plexus uterinus coursing to the uterus external to the ureter and about seven trunks pass to the uterus median to the ureter. Also one large or two small strands of nerves pass directly from the plexus interiliacus (hypogastricus) to the uterus without first entering the pelvic brain. The nerve supply (in this subject) to the uterus (plexus uterinus) a richly ganglionated plexus, is luxuriant, enormous, profound. This infant's uterus and vagina demonstrates that they are profoundly supplied by a richly ganglionated fine nerve plexus which is intimately woven on their surfaces and richly distributed through their parenchyma. The uterus, like the heart, appears to possess single ganglia to rule its functions, should the local ruler, the pelvic brain, become incompetent.

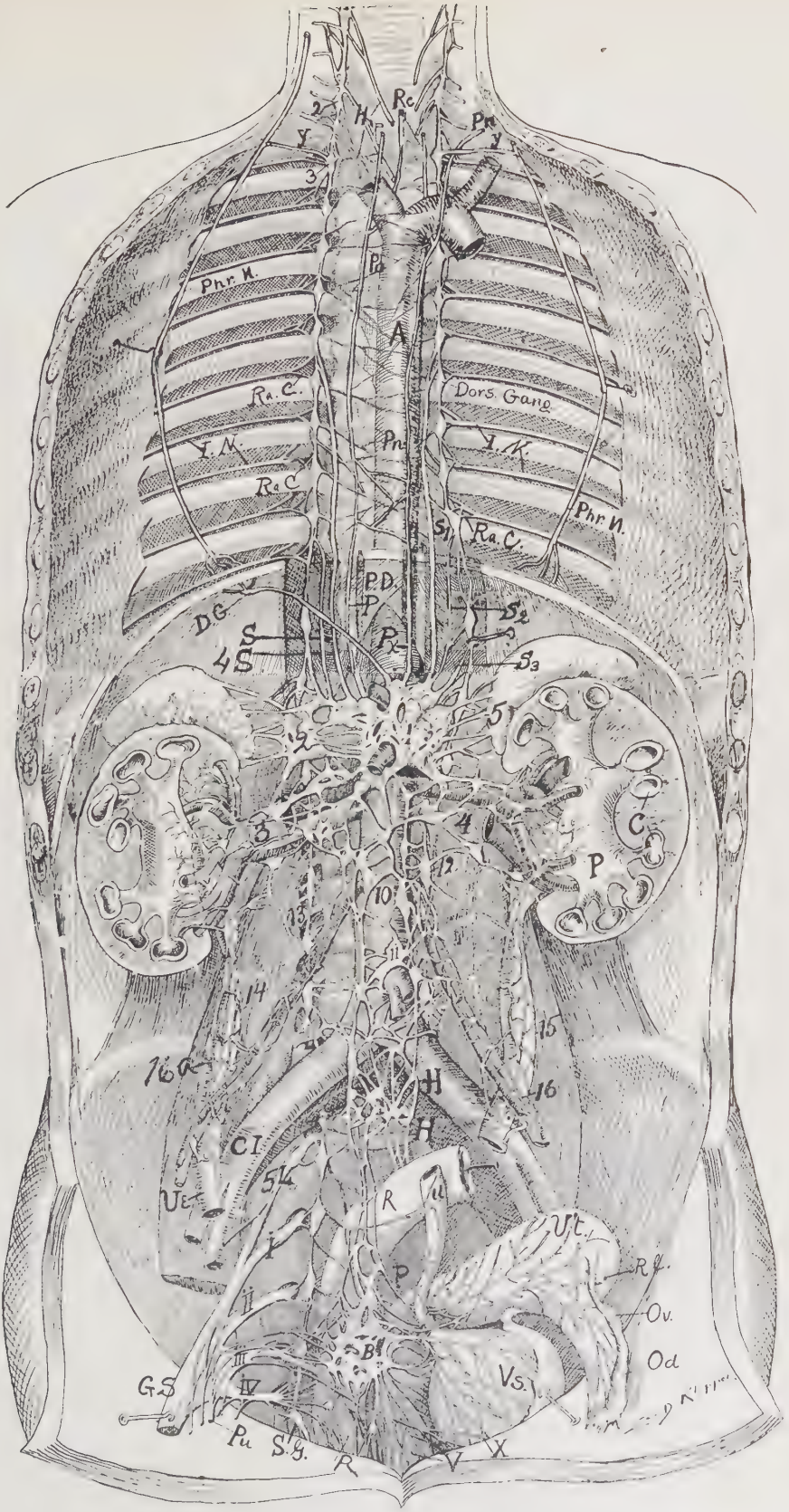

FIG. 5.—ADULT PELVIC BRAIN.

This illustration presents the complete sympathetic nerve from the abdominal brain (1 and 2) through the plexus aorticus through the interiliacus to the pelvic brain B. The plexus ovaricus coursing on the vasa ovarica extend to the ureteral crossing only (16a and 16).

of nerves which surround the vagina like a network of cords surrounding a rubber ball. The vaginal nerve plexus and vaginal vein plexus both rich, complicated and abundant intertwine and interweave with each other. The rich vaginal plexus is bedecked with numerous ganglia at the points of nerve convergence. The meshes of the vaginal plexus, being occupied by fatty tissue, connective tissue, lymph and blood vessels, its dissection is accompanied with difficulty. Infant cadavers should be chosen to facilitate correct exposure of the finer constituents of the vaginal plexus. As the bladder is supplied by a large branch from the third sacral nerve, so the vagina is supplied from a large branch of the fourth sacral nerves. The ganglionated nerve cords from the pelvic brain surround the vagina like a mighty network, ventrally and dorsally. The vaginal plexus also emits many large nerves to the rectum and bladder. The ventral vaginal nerve leashes course proximalward and distalward. The larger ganglia of the vaginal leash or plexus occur at the proximal ventral vaginal fornix, while on the distal ventral end of the vagina the ganglia are numerous, but more limited in dimensions. The ganglia of the dorsal vaginal wall is limited in number. The entire vagina is completely surrounded by a closely woven ganglionated nerve network. These peri-vaginal and para-vaginal plexuses stand in intimate relation with the pelvic brain.

Toward the central longitudinal axis of the uterus and vagina the genital plexuses diminish, simulating exactly the genital blood and lymph supply.

3. *Plexus vesicalis* is emitted from the pelvic brain to the bladder. The vesical plexuses is of the powerful rich ganglionated plexuses or leashes of the pelvic brain. It is solidly and compactly anastomosed to the plexus rectalis, but especially to the plexus uterinus inducing the rectum, uterus and bladder to act clinically or symptomatically as one apparatus. For description see nerves of tractus urinarius.

4. *Plexus rectalis* is emitted from the pelvic brain to the rectum as rich network of nerves bedecked with ganglia limited in number and dimension. The rectal plexus emitted by the pelvic brain is a fine plexiform leash of nerves which passes distalward on the lateral borders of the rectum intimately blending with the tissues of the rectal wall. The rectum has not only a rich and complicated nerve supply, but it has a mixed nerve supply. The following table presents a general view of a rectal nerve supply:

RECTAL NERVE SUPPLY.

1. Plexus hemorrhoidalis superior (from the arteria mesenterica superior).
2. Plexus interiliacus (from the abdominal brain).
3. Plexus hemorrhoidalis medius (accompanying the arteria hemorrhoidalis media).
4. Plexus hemorrhoidalis inferior (from the arteria hemorrhoidalis inferior and plexus pudendalis sacralis—mixed vasomotor and spinal nerves).
5. Plexus rectalis (from pelvic brain—a powerful rich nerve plexus solidly anastomosed to the plexus uterinus aud vesicalis).
6. Plexus sacralis spinalis (branches from the second, third and fourth sacral nerves).
7. Truncus pelvis sympathicus (lateral sacral ganglia).

The three great hemorrhoidal plexuses arriving at the rectum via the three hemorrhoidal arteries invest it with a network of rich nerve plexuses. A rich leash of nerves passes to the rectum from the plexus interiliacus. Part of the branches of the plexus pass proximalward on the rectum to anastomose with the plexus hemorrhoidalis inferior (from the inferior mesenteric plexus) while part passes distalward on the rectum penetrating its coats. Some of the branches of the hemorrhoidal plexus supply the bladder and genitals. From this anatomic distribution of the hemorrhoidal plexus—to genitals, rectum and bladder—is obvious that the genitals, rectum and bladder are solidly and compactly anastomosed. Clinical work demonstrates this balanced union of organs in the pelvis through nerve connection, as rectal or genital operations will induce inability to micturate. The plexus hemorrhoidal is medius (and inferior) corresponds to the plexus pudendalis on the arteria pudenda. For further description of the rectal nerve supply see tractus intestinalis. The nervous apparatus ventral lateral and dorsal to the vagina, that supplying the ureter, that coursing through the parametrium and perimetrium, that supplying the bladder, rectum and ureter are solidly and compactly anastomosed. They form an inseparable nerve plexus bedecked with ganglia of greater and lesser dimensions surrounding the cervico-vaginal junction. The vast plexuses of the pelvic brain, rich in ganglia, extend from the cervico-vaginal junction distalward to the pelvic floor surrounding with a luxuriant closely woven network, uterus and vagina (tractus genitalis), the rectum (distal tractus intestinalis), the bladder and ureter (distal tractus urinarius).

SUBSCRIBE for The Medical Fortnightly.

MUCO-COLITIS.*

W. T. KNOX, M. D.

MANCHESTER, ILL.

An inflammatory affection of the intestines characterized by a feeling of discomfort and pains in the abdomen with chill and fever, and more or less movements some little time previous to the onset, and the frequent passage of mucous of a ribbon-like character, of a grayish-white appearance and of a membranous form.

It occurs much more frequently in women than in men. That the nervous element plays a great factor in the origin of this trouble, we have no doubt. If neurasthenic patients be closely questioned, very few will be found who have not had at some time the characteristic passage of stringy mucous, associated with more or less abdominal pains; these abdominal sensations may be especially marked some time after the ingestion of food; there is almost constantly a feeling of tension or of bloating in the abdomen, belching or the passing of wind alleviates these symptoms. Our experience is that patients greatly lose in flesh and present an appearance of suffering —have fever, cold extremities and cold sweats, nausea and anorexia constantly present, especially is this the case in those due to autoxication from the bowel. There may be tenderness all along the colon, occasionally the ascending colon can be felt as though a larger round tumor contained therein of a hard mass, this part of the colon is especially tender. During the time, in particular, that immediately preceded the development of the disease we find that the patients suffered for some weeks from obstinate constipation, and they report that they noticed the passage of mucaus together, with hard masses of feces on several previous occasions, and some time before the disease proper developed, and before they were prostrated. Painful sensations in the abdomen could be made to disappear when the evacuation of the bowel contents was promoted artificially by the administration of castor oil, or by the use of enemata; these severe attacks of pain can be explained by assuming stasis of fecal material. There is either an evacuation of mucous without pain, the mucous passing unmixed with feces or the evacuation of the mucous is accompanied by a feeling of extreme distress in the abdomen and pain. In the former the mucous is usually very loose, more of a jelly consistence, and resembles fish eggs, and is translucent; while in the latter case the mucous is more solid, more of an amber color and less translucent and assumes various shapes, that of strands, bands and membranous structures.

Prof. von Noorden does not think it wrong to assume that the loose glairy form of mucous constitutes the fresh product of the mucous membranes, whereas, the tough and solid masses of mucous constitute older secretions that were produced some time before the evacuation occurred, and that were kept for some time, no one knows how long—on the surface of the mucosa, mucous attached this way to the mucosa loses water by absorption, and consequently becomes tougher in consistency, at the same time the pressure exercised by the scybala that pass over this mucous through the bowel lumen moulds it into bands, strands and membranes. That this actually occurs will readily be conceded by any one who has had occasion to inspect such mucous in autopsies on such cases. Rothmann and Hemmeter state that the mucous is very tightly adherent to the mucosa, and has in his possession a specimen in which the strands of mucous were attached so tightly to the intestine that they could only be removed with difficulty with a pinchette. In typic cases no mucous whatever may be evacuated for long periods of time, and then at once large quantities of mucous (10 to 100 grams) that is apparently old are passed at once, we may assume that these old adherent masses of mucous are freed from their attachment by the mechanical action of the bowel that is induced by the attack.

The following case presents an instance of the above described condition, even more extreme in degree. Mrs. H., aged 39 years, gives a history of having suffered with diarrhea eleven years ago; under treatment of almost seven years ago by the writer, this trouble disappeared at that time, and patient enjoyed good health, having gained much in weight, until the attack of a year ago. Patient was apparently well until the middle of July, when she experienced pain and distension of the bowels, with some diarrhea and soon followed with periods of obstinate constipation, alternating with diarrhea, passages contained at various times large quantity of mucous of the character described, these passages were very offensive. Patient lost in weight during this attack of six weeks twenty-five to thirty pounds, her strength greatly failed. The most troublesome feature in this attack was the intense nausea and the weakness induced by them, her color was bad, almost that of an olive-green. Patient had another attack in August of this year, her condition was much the same as that of a year ago, with the excep-

* This paper was prepared for the annual meeting of the Western Illinois District Medical Society at Alton, Ill.

tion that the constipation was more severe, the ascending and transverse colon was especially tender to the touch; a few hours preceding an evacuation of the bowel, especially when the contraction of the bowel was such as to dislodge a large quantitiy of mucous, patient would experience a sinking period with intense nausea, cold extremites, cold sweats and subnormal temperature. I may say the cold sweats and cold extremities were present to some extent most of the time. One peculiar feature during this attack, which was related by those in attendance as nurse, that what appeared to them as large as a good sized orange was noticed to travel from and across the transverse colon and disappear, to be soon followed by an evacuation of a large mass mostly mucous of the darker character described.

Patient suffered with "cramps of the stomach," especially during the convalescent period. She is affected also with multiple fibroid of the uterus, and this may have added to the gravity of the case. During extreme distention these tumors would beome prominent, and to apparently disappear so soon as relieved by an evacuation of the bowel.

Her temperature ranged from 97 to 103.3; pulse ranged from 86 to 140. At only one time, early in the attack, did the temperature reach the highest mark stated, 103.3.

Treatment was supportive, narcotics, antiseptics, and meeting depressed conditions with stimulants as indicated.

Compound Fracture Dislocation of the Ulna.—L. B. Henkel, Annapolis, Md. (Jour. A. M. A., Dec. 23), reports the case of a workman who fell from a ladder a distance of about fifteen feet, landing on the palm of his right hand, left wrist, knees and face. He suffered a lacerated injury of his right hand, requiring six sutures, contusions of the knees and face and a dislocation of the ulna, the free end being splintered and penetrating the soft tissues and skin of the wrist so that the wound had to be enlarged about three inches to reduce the dislocation. This was done, the wound sutured and a plaster bandage applied with a window over the wound, which was dressed with 10 per cent iodoform gauze after bichlorid irrigation. The plaster was removed in three weeks and anterior and posterior splints applied for ten days longer. The sutures were removed after four weeks, the wound having healed by third intention. After removal of the splints, massage and passive movements were employed and the patient discharged at the end of the seventh week with fairly good movement.

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EDITORIAL

Observations in the Far East.

At the meeting of the St. Louis Medical Society, December 23d, 1905, Dr. Mary McLean, in a paper, "Medical Observations in the Far East," discussed conditions as she found them in the several cities of China and Japan in the order in which she visited them. At Shanghai there are two flourishing hospitals, Dr. Boone's hospital for men and boys, and the Woman's Hospital. The Chinese have contributed some $65,000 to the support of Dr. Boone's hospital, and this physician never charges a fee, finding it pays better to trust to the liberality of his patients. The essayist concludes that the Chinese character is on a much more generous plan than the American. In the Woman's Hospital there is a daily clinic of 100 to 300 women and girls. Some of the cases in this hospital are so desperate that in this country early death could be safely predicted. There they recover with but little attention, owing to their power of recuperation. Dr. McLean saw but little of the Chinese methods, but she did see a kit of surgical instruments in Korea. These instruments were merely a number of needles varying in size. The afflicted person is supposed to be possessed of an evil spirit and one of these needles is inserted into that part of the body nearest the pain in the hope of releasing this evil spirit. Even the heart is sometimes pierced in this way. Dr. McLean referred to one case in which a piece of flesh from a woman's arm was cooked and given to her sick child. There is no such thing as sanitation among the Chinese. In illustration of this the doctor cited one instance that came to her notice. In a little pond, the water greenish-black, a woman was soaking her vegetables, a coolie near by was washing his

feet, while not far away a pig wallowed and a woman was washing her clothes. The people are very poor, many of them, in the interior, subsisting chiefly on grass seeds, roots and pounded corn, rice being too costly for daily food. These people believe chicken deadly to consumptives, also eggs, none of them drink milk or eat butter, both being disgusting to them.

In Hang Chow, Dr. Main, of Scotland, has had charge of the medical work for twenty-five years. An immense amount of charitable work is done here and the several institutions are almost entirely supported by the Chinese. In the general hospital of 200 beds every patient upon admission is required to have a thorough bath and change of clothes, to keep out the vermin so plentiful in China. Dr. Main uses a ton of carbolic soap in one year. In addition to this hospital he has one partly for men and partly for women, besides an institution for lepers, a school for leprous children and a very fine tuberculosis sanitarium, for both Chinese and mission workers.

In Kiu Kiang is a hospital conducted by a young Chinese woman, a graduate of an American university. She has trained her own assistants, and is conducting the institution most successfully in every particular. Dr. McLean spoke very highly of the medical educational work being done in Pekin, where the representatives of the four denominations have united in the work. The hospitals here are well equipped. Here, too, she saw the Northern Chinese bed, or kang, a raised platform of cement and brick, with an opening underneath for a charcoal fire.

Of the military hospitals in Japan, the essayist had nothing but praise for everything and everybody in connection with them, including the patients. The Red Cross and Toyama hospitals each have a capacity of about 7000. The wards are one-story, long, frame structures, with windows on either side, a hall running down the middle, with a bath-room at each end. The soldiers were bountifully provided with good nourishing food, many receiving the richest sterilized milk in addition to their regular diet. In the diet kitchen everything was exceedingly clean, and the milk sterilizing plant wonderfully complete. In the operating rooms the nursing was far superior to that seen in St. Louis, there were never less than five nurses in the room, each attending strictly to her duty. In the surgical dressing rooms often as many as twenty soldiers were being attended to or waiting their turn, yet during the two months over which her observations extended, Dr. McLean never heard one of them utter a complaint, not even a groan. She found the Japanese surgeons skilful and painstaking and she stated, apparently in all sincerity, that they were always good natured and did not even swear.

The discussion was opened by Dr. George Gellhorn who related some of his experiences during a visit to China several years ago. He also showed the society two Chinese textbooks on gynecology.

Dr. Robert M. Funkhouser and Dr. Robert Barclay, in connection with these people's quiet endurance of pain, discussed the religion and philosophy of the orientals and the value of suggestion in its relation to surgery.

The President, Dr. Henderson, agreed with Dr. McLean that the Chinese must be more generous than the Americans. In proof of this he stated that but three patients had ever paid him more than the amount of his bill; a German who could speak no English, a Hebrew and a Chinaman.

The paper was further discussed by Drs. Fleming, Goodloe, Stauffer and Hopkins.

The Hospital Society Banquet.

The annual banquet given by the Medical Society of City Hospital Alumni at the beginning of each new administration has come to be recognized as one of the more important social events of the season in which medical men alone are interested. The banquet this year was given at the Washington Hotel on the evening of January 4th, and was an occasion of more than usual pleasure to all in attendance. The president for 1905, Dr. John Green, Jr., presided during the feast, and when cigars were lighted, in a most felicitous address gave a resume of the work accomplished during the year and work under way and introduced the president-elect, Dr. Louis H. Behrens. President Behrens spoke of the past and future of the society, dwelling on its accomplishments and the duties which lie before it and for the future, the responsibility of each member to be a factor in the accomplishment of reforms and improvements which must be effected in St. Louis in the near future.

Following Dr. Behrens, Dr. Geo. Gellhorn spoke on Medicine in Europe; Dr. M. G. Seelig, on Medicine in the East; Dr. Walter B. Dorsett, on Medicine at Home, and the Old City Hospital; Health Commissioner Snodgrass, on The New Pathologic Laboratory of the City Hospital; Irvin V. Barth, Esq., on Quackery in Medicine; and Dr. Merrell and Superintendent Elbrecht (of the Female Hospital) on unassigned subjects.

The attendance at this banquet was better than 100, and the enthusiasm aroused presages well for the work of the society during 1906.

WORKING ORGANIZATION OF THE ST. LOUIS MEDICAL SOCIETY FOR 1906.—President Homan has appointed the following standing committees to assist him in his administration of the affairs of the St. Louis Medical Society for the current year:

Elections—Thomas A. Hopkins, chairman; Walter Baumgarten, Julius H. Gross.

Executive—John C. Morfit, chairman; Davis Forster, John Green, Jr.

Publication and Debate—Geo. M. Tuttle, chairman; Hudson Talbott, Albert E. Taussig.

Library—James M. Ball, chairman; M. W. Hoge, Mary H. McLean.

Microscopy and Pathology—Albert E. Meisenbach, chairman; Wm. W. Graves, E. F. Tiedemann, Wm. H. Mook, L. M. Warfield.

Public Health and Legislation—Clarence M. Nicholson, chairman; Hugo W. Bartcher, Robert Luedeking.

Ethics (elected)—Paul Y. Tupper, chairman; Benj. M. Hypes, Frank L. Henderson.

Contested Elections (three Junior Ex-Presidents)—Frank L. Henderson ('05), B. M. Hypes ('04), A. R. Kieffer ('03).

CALCIUM OXALATE CALCULI.—As prophylaxis Bruce advises regular daily exercise in the open air—change to bracing, hill or coast region; cold or tepid baths with friction; exclusion of rhubarb, tomatoes and onions from diet and using cabbage, farinaceous puddings and all kinds of sweets sparingly; an alkaline stomachic tonic just before meals, or acid stomachic tonic after meals.

BRAIN TUMOR.—J. Grinker, Chicago (Jour. A.M.A., Dec. 23), reports a case of brain tumor, locally diagnosed antemortem as occupying the subcortical region under the lower two-thirds of the anterior central convolution of the left side, but not involving the base of the brain. The autopsy revealed a large subcortical glioma involving the region indicated and not clearly defined from the surrounding brain tissue. The author remarks on the absence of local cortical symptoms in the case, the probable limitation of the motor area to the region anterior to the Rolandic fissure in man, the impossibility of making an exact anatomic diagnosis of the nature of the growth and the general inoperability of glioma because of its tendency to infiltrate and its usual deep situation in the white substance of the hemisphere.

THE REVIEWER'S TABLE

Books, Reprints, and Instruments for this department, should be sent to the Editors, St. Louis.

HARE'S THERAPEUTICS. A Text-book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment Upon a Rational Basis. By Hobart Amory Hare, M.D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. New (11th) edition, enlarged and thoroughly revised to accord with the eighth decennial revision of the U. S. Pharmacopoeia, 1905. In one octavo volume of 910 pages, with 113 engravings and four colored plates. Philadelphia and New York: Lea Brothers & Co., 1905. (Cloth, $4.00, net; leather, $5.00, net; half morocco, $5.500 net.)

Since the appearance of the 1905 edition of the U. S. Pharmacopoeia many new preparations have been introduced, some official drugs have been excluded, and the dosage and strength of many tinctures, extracts and fluid extracts, have been altered, all of which are included in Hare's new book on Therapeutics. The physiological action, therapeutics and administration of drugs are clearly outlined, and particular stress is put on the indications and reasons when during the course of a disease certain drugs are indicated or contra-indicated. The chapter devoted to the treatment of diseases will be of great aid to the physician until he finds time to consult special books on this subject.

DISORDER OF METABOLISM AND NUTRITION, DIABETES MELLITUS. By Prof. D. Carl von Noorden. New York: E. B. Treat & Co., 19.5. (Price, $1.50.)

The author's extensive knowledge of the pathology, chemistry and physiology of diabetes mellitus enables him to give us valuable information in the dietetic, hygienic and medicinal treatment of this disease. The indiscriminate use of fixed diet lists or of drugs does more harm than good, but the author advises us to study and treat each case individually.

SALINE THERAPY. By Prof. D. Carl von Noorden. New York: E. B. Treat & Co., 1904.

The author reports a number of cases, suffering from anacidity, subacidity and hyperacidity of the gastric juice who received saline mineral waters, some of which were much benefited while others grew worse, depending on the cause of this symptom and the diet instituted. The chapter devoted to the effect on absorption of food, especially on the digestion of fat is very thorough, and proves that the use of mineral waters and a diet rich in fat are permissible, at times being highly beneficial to the patient. The same is true of fruits and vegetables. The diet must be regulated according to the diseased condition and the effect which certain articles of food have on the patient. This little book will be found useful to any one who is interested in the various mineral springs.

PATHOGENIC MICRO-ORGANISMS, INCLUDING BACTERIA AND PROTOZOA. A Practical Manual for Students, Physicians and Health Officers. By William Hallock Park, M.D., Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College, etc., assisted by Anna W. Williams, M.D , Assistant Director of the Research Laboratory. Second Edition, Enlarged and Thoroughly Revised, with 165 Engravings and 4 full-Page Plates. Philadelphia and New York: Lea Brothers & Co., 1905. (Cloth $3.75 net.)

This well-known work appearing in its second edition certainly represents a working manual of excellence in bacteriology for any one interested and working along these lines, whether he be student, physician or laboratory bacteriologist. The part devoted strictly to the pathogenic bacteria has been revised and brought up-to-date, facts submitted and conclusions drawn in the bright, concise and thorough manner so characteristic of that indefatigable and able worker and writer, Dr. Wm. Park, the author of this work. Park needs no introduction to our readers. To those of us who have seen his work in the New York Department of Health, as was the good fortune of the reviewer, the work in hand is a speaking and written likeness of its author. For those who have not had the pleasure of Dr. Park's acquaintance, a careful study of his work will give one an idea of his ability in this new-found science of bacteriology. The chapters on the Protozoa are of invaluable aid to those who have not had time or occasion to follow the recent literature on this line. The study of the protozoa has received a new impetus in the last few years, particularly by the work of those on this side the Atlantic. The chapters on protozoa written by the able assistant director of the Health Department Laboratory teem with these new facts and discoveries. The work of Mallory and his followers on the protozoon-like bodies found in scarlet fever; the work by Theobald Smith on the tick of Texas fever; the study of trypanosomes in man, particularly the work of Schaudin on the spirochaeta pallida found in syphilitic lesions is given in extenso. We cannot commend the work too highly; certainly it is the best that has yet appeared in our language, and compares equally wlll with any that has appeared in any language. R.B.H.G.

Post-Nasal Adenoids.—These growths are characterized by open mouth and vacant expression, a peculiar muffled voice; and by the appearance of a reddish-gray mass hanging down from the vault and obscuring the upper part of the nasal septum. The only treatment worth consideration is operative removal with curette and finger under cocaine or general anesthesia.

REPORTS ON PROGRESS

Comprising the Regular Contributions of the Fortnightly Department Staff.

PATHOLOGY AND BACTERIOLOGY.

R. B. H. GRADWOHL, M. D.

Intestinal Origin of Pulmonary Tuberculosis.—A. Calmette and C. Gurein (Annales de l'Institut Pasteur, No. 10 Tome XIX, October 25, 1905) call attention to the fact that Behring claims that all cases of pulmonary tuberculosis seen in the adult are not infected through the respiratory tract, but are due to infection in early life through the intestinal canal. The writers determined to attempt a solution of this problem and consequently selected for their experimentation the kid as an animal easily susceptible both in young and adult life to the tubercle infection. Advantage in these experiments was taken of the work of Nocard, Rabieau and Schroeder who proved that it is easy to produce a tuberculous mammitis by injection tubercle bacilli directly into the mammary glands of goats. As a preliminary measure, Calmette and Guerin injected goats with cultures of human, bovine, aviary and pseudo-tubercle bacilli. It was found that the injection of bovine tubercle bacilli into the mammary glands produced a rapidly fatal local mammitis tuberculosa, without extension of the lesions into other parts; that the human tubercle bacillus produced similar effects, not so pronounced however (many animals surviving the infection for a while); that the cultures of the pseudo-tubercle bacillus and the avian tubercle bacillus were comparatively inoffensive. Finally, these preliminary tests demonstrated that the differentiation between the human and the bovine bacillus could be made by comparison of the effects on these goats. The tests were then carried out by infecting pregnant goats and allowing their young to be suckled from these tuberculous-infected mammary glands. At the same time living cultures of the different varieties of the tubercle bacillus were introduced into the intestinal canals of full-grown goats by means of esophageal hollow tubes. Typical tuberculosis was developed. The conclusions of the two writers were that in the immense majority of cases tuberculosis pulmonalis is not contracted by inhalation, but by ingestion, as has been so long contended by Behring. They reject the theory of Behring's that adult tuberculosis is the result of a latent and tardy intestinal tuberculosis developed in early infancy. They believe that adults are more easily infected through the intestinal canal than are infants,

i.e., that the young are better protected through their early life by their ganglionic (mesenteric glandular) system than are adults. They believe that it is easier for infection to travel from the intestinal canal through the blood and lymphatic systems of adults than of children. They believe also that the swallowing of sputum holding tubercle bacilli in adults means re-infection after re-infection, with absorption through the lymph stream, causing new foci to form in different parts of the lungs. For this reason they advocate that tuberculosis patients should never swallow sputum, and that there should be a strenuous attempt made to keep the mouth clean and free from these bacilli after expectoration, particularly before eating.

The Pulmonary Lesion of Tuberculosis.—M. H. Vallee (Annales de l'Institut Pasteur, No. 10, Tome XIX, Oct. 25, 1905) in a paper read before the International Congress of Tuberculosis, discusses the lesions and the methods of infection in pulmonary tuberculosis. He narrates a number of experiments made upon calves with bovine tuberculosis. Calves were treated with tubercle bacilli by direct injection into the trachea. It was found at autopsy on these animals that while local tuberculosis of the mucosa was brought about in every case by such injections, that the tuberculous process did not spread to the lungs, even though the secretion from the tuberculous areas in the trachea was carried down the bronchial tree and deposited in all accessible parts of the lungs. It was also determined by means of pulverizations of living virulent cultures of tubercle bacilli into the naso-pharynx that while immense caseous tuberculous lesions were produced in the retro-pharyngeal glands, all other organs, lungs, liver, etc., remained free from tuberculosis. Another series of experiments wherein young calves were allowed to feed upon the milk from a cow with tuberculous mammitis showed that these animals contracted tuberculosis of the lungs and peribronchial lymph nodes, said infection taking place through the intestinal canal. The mesenteric glands however, showed but very minute changes. These experiments proved that infection can take place through the intestinal canal, afterwards reaching the lungs, without producing any marked changes in the intestinal mucosa or in the mesenteric lymph nodes. The writer believes that adult cases of tuberculosis are due to a tuberculous infection through the intestinal canal. He points to the work of Rabinowitch, Mohler and Moussu who showed that cows may have tuberculosis of internal organs without any manifestations of tuberculosis of the udder, and yet milk from such animals may fairly swarm with virulent tubercle bacilli.

INTERNAL MEDICINE.

O. E. LADEMANN, M. D.

Pavy's Test for the Percentage Estimation of Sugar in the Urine.—Sahli (Deutsche Med. Wochenschrift, No. 36, 1905) upholds the muchly disfavored Pavy method of sugar titration with the ammoniacal copper solution and proposes a modification which overcomes the technical difficulties heretofore entailed, namely: (1) The exclusion of air during the process of titration, necessitating an air tight fastening of the buret to the flask in order to prevent an oxidation of the colorless solution; (2) as a consequence of the gradual addition of the urine cuprous oxide will be precipitated by the removal of ammonium occasioned by the too prolonged boiling of the solution. The author discusses its application in the clinic, and for general practice, highly commending it as a simple, rapid and reliable method for the quantitative estimation of sugar in the urine, giving it preference to the methods of Soxhlet-Allihn, Lehmann's iodometric titration, the areometric fermentation test, the polarimetric estimation or Lohnstein accurate fermentation saccharometer. Sahli prepares the ammoniacal copper solution as follows:

No. 1.

Crystalized copper sulphate...	4.158 grams
Distilled water.....	500 c.c.

No. 2.

Sodium potassium tartrate.....	20.4 grams
Potassium hydrate, C.P.....	20.4 grams
Aq. ammonia (S. G. 0.88).....	300.0 c.c.
Distilled water, ad.....	500.0 c.c.

Ten cc. of the combined solutions (5 cc. each), which exactly reduce 0.005 grams of sugar, are put into a flask of 75-100 cc. capacity to which is added 30 cc. of water, the addition of the latter being to prevent an early escape of the ammonia. The flask is gradually heated until it simmers on an asbestos gauze. Violent boiling is to be avoided. The urine, before placing in the buret for titration, is diluted fifty times its volume with distilled water. In diluting the urine it is better to use 10 cc. to 500 cc. of water than in the proportion of 1 to 50. Titration is practiced until the simmering ammoniac copper solution is completely oxydized and the percentage of sugar estimated by the usual mathematical calculation. Sahli also emphasizes the necessity of the practi-

tioner in making his own sugar tests rather than trusting them to a third party. He mentions an instance in which a physician treated a patient for months with the diagnosis of diabetes based on the finding of sugar in the urine by a third person. The diabetic diet which had been given during this time reduced the individual to an emaciated condition, when the discovery was finally made that the urine contained no suagr. Quantitative tests should always be made by the physician if he desires to apply therapeutic measures intelligently.

The Blood in Pulmonary Tuberculosis.—Ullom and Craig (Am. Jour. of the Med. Sci., Sept., 1905) deduct the following conclusions from a hematologic study of 39 cases of pulmonary tuberculosis, with special reference to prognosis: 1. In pulmonary tuberculosis without cavity formation a mild anemia, with a decrease in erythrocytes and relatively greater decrease in hemaglobin, is constant. 2. From the standpoint of prognosis an increase in erythrocytes, in cases without cavity formation, is of favorable significance. 3. In advanced cases a decrease of leucocytes is of unfavorable import. 4. The actual increase of lymphocytes seems to correspond to the increase of resistance on part of the organism to the tuberculous infection, but further study is required to confirm this deduction. 5. The transitionaal cells seem to follow the same rule as the lymphocytes in this regard. 6. At the begining of the investigation the eosinophiles seemed to increase with the patients improvement, but further study did not support this view.

The Effect of Tea on the Gastric Secretion.— Sosaki's (Berliner klin. Wochenschrift, No. 49, 1905) investigation in this direction consisted in effecting a gastric fistula in an esophagotomized dog according to the Pawlow method and feeding large quantities of strong tea (10 gms. to 400 cc. of water). He noted a uniform reduction in the gastric secretion. These results are of considerable diagnostic import in deducting inference as to the secretory function of the stomach in giving an Ewald test-meal.

Ankylostomiasis of the Skin.— Dubrenilh (Presse Médicale, No. 30, 1905) dwells at length on the subject of ankylostomiasis and says, among other things, that the experiments of Loos, Kairo and others prove beyond the peradventure of a doubt the fact that the ankylostoma larva enter the body through the skin and by the venous circulation is transported to the pulmonary alveoli, thence to the bronchi, and finally wonders through the esophagus into the stomach and intestines, where they develop to their full maturity. Schaudinn has successfully demonstrated the presence of the larva in the circulation of the heart and lungs in monkeys after a cutaneous invasion. The author maintains that alterations of the skin must necessarily be a consequence where invasion through the epidermis has taken place. As a matter of fact, characteristic skin lesions have long been described occurring endemically in certain localities, especially in the tea plantations of Assom under the name of panighav, in the southern portion of the United States, as water itch or water scabies, etc. The first symptom is intense itching beginning on the soles of the feet and extending to the dorsal surface. The skin at the onset is red, and after one or two days vesicles form which increase in size and number terminating in painful ulcerations. The eruption is usually limited to the feet, rarely extending to the ankles, the remaining surface of the body is never involved. The condition, if left to its own course, lasts several weeks and may be complicated by gangrene and phagedenic ulcers. Panighav occurs exclusively during the rainy season in persons working on the plantations with bare feet. Ankylostoma eggs are almost invariably found in the feces of those working on plantations whenever panighav prevails endemically. Dubrenilh considers this evidence as sufficient proof that the larva of ankylostoma (duodenale, americanum, caninum) penetrates the skin, and on reaching the gastrointestinal tract completes its development, and further holds this to be the usual mode of infection where ankylostomiasis occurs endemically. He also points out the importance of observing skin eruptions during such a prevalence of the disease.

Sahli's Desmoid Reaction.—Eichler (Berliner klin. Wochenschrift, No. 48, 1905.)— This reaction, as suggested by Sahli, consists in swallowing a pill of methylene blue enclosed in a rubber capsule or sack, which is sealed at the open end by a fine piece of raw catgut ligature. The prepared capsule is to be administered shortly after the main meal. Gastric secretion containing the normal amount of pepsin and hydrochloric acid readily digests the piece of catgut, permitting the escape of methylene blue, which is easily detected in the urine several hours later. Eichler has given this test an unprejudiced trial in thirty patients in whom a previous Ewald test-meal had been given to determine the gastric secretory function. The author quite agrees with Sahli, who regards the reaction as a convenient and practical method of determining the digestive function of the

organ. A positive reaction in from fifteen to twenty hours after the ingestion of the capsule sufficiently proves, with but few exceptions, that the mucosa of the stomach secretes both pepsin and hydrochloric acid in sufficient quantity to carry on adequate digestion. A negative reaction, however, points to no particular gastric affection, it signifies, in general, a gross disturbance in the secretory function. In order to more accurately determine matters it is necessary to resort to the use of the stomach tube.

THERAPEUTICS.

W. T. HIRSCHI, M.D.

The Significance of Spinal Anagesia for the Diagnosis and Treatment of Rectal and Anal Diseases.—(T. Neugebauer, Zent. für Chirurgie, No. 44, 1905.)—The writer observed 560 of spinal anagesia, the majority of which had a complete relaxation of the sphincter ani muscles during the anesthesia, so the lower portion of the rectum could easily be inspected. For this reason he prefers this method of anesthesia for operations in the region of the anus and rectum. He frequently observed a spontaneous reduction of incarcerated hernia during spinal anesthesia. The same, however, also occurs with general anesthesia.

Nausea and Vomiting after Narcosis.—(T. D. Luke, Edinburgh Med. Jour., Sept., 1905.)—Ether causes nausea and vomiting coming on soon after, being severe, but lasting only a short time. Chloroform causes nausea and vomiting much later and lasting longer. Purging the day previous to anesthesia is injurious, and if it should be necessary this should occur at least two days before operating. Severe fasting is not advisable. Milk diet should be avoided for a day or two following anesthesia, since ether and chloroform produce a temporary hyperacidity. The patient must remain quiet for a few days and receive a rectal enema (one-half litre of normal saline solution) immediately after narcosis, to hasten the elimination of the anesthetic and reduce the thirst. The mouth should be washed repeatedly with a mild astringent. Warm water may be taken soon after an anesthetic. No drugs are of benefit to prevent vomiting.

The Treatment of Albuminuria and Eclampsia Occurring in Pregnancy.—(Boxall, British Med. Jour., Sept 23, 1905.)—In all cases of pregnancy associated with persistent albuminuria, especially if the urine is diminished in amount and casts are present a strict diet should be observed. Milk and farinaceous articles must be used freely, while meat is to be restricted. The bowels should move freely, and if necessary mild saline physics, comp licorice powder or comp. jalap powder can safely be used. Large hot normal saline enemata are very useful as they increase diuresis and cause the bowels to move freely. Pregnancy should not be interfered with, unless there is grave danger to the mother and all other useful means have failed. If eclampsia occurs, chloral (30 grains) and potassium bromide (60 grains) combined given per rectum often are useful. Hot water baths, hot air baths, and hot mustard poultices also do good. Chloroform anesthesia in rapidly recurring convulsions, and morphine injections in less frequent attacks are highly recommended. Phlebotomy followed by intravenous normal saline solution injections also does good. If the case does not improve with these methods of treatment labor must be induced. If the convulsions occur at long intervals the cervix may be dilated by introducing bougies and rupturing the membranes. If the convulsions recur often rapid manual dilation is resorted to. At times, forceps delivery, craniotomy, version, or Cesarean section are necessary.

DEPARTMENT OF LEGAL MEDICINE.

R. B. H. GRADWOHL, M. D.

The Influence of the Presence of Organic Coloring Agents in the Determination of the Presence of Blood by Means of the Spectroscope.—Giese (Viertel jahschrift fuer gerichtliche Medizin und of entliches Sanitatswesen, Band XXX, Heft 2, October, 1905) states that Dvornitschenko in 1900 said that every year a new method of identifying blood would be described. This article is on the subject of the identification of blood by means of the spectroscope where small quantities of blood are submitted for examination and that, too, in cases where the blood is in wearing apparel of dyed stuff of various kind. The presence of the anilin color or the dye-stuff is a hindrance to the exhibition of the typical spectrum of blood, according to most authorities. In order to definitely determine whether or not blood on dyed material will give the characteristic spectrum, Giese mixed blood with anilin colors and dipped pieces of dyed goods in blood, allowing the pieces to dry in the incubator, and then extracted them in various extraction fluids—10% potassium cyanide solution, weak sodium hydrate solution, acetic acid and carbolic acid. He tried both

wool and cotton goods dyed with many different stains, acid and basic. As a result of these experiments, Giese concluded that there are certain coloring agents which will interfere with the spectroscope identification of blood that is mixed on these artificially colored goods. He recommends that in order to prevent false conclusions when seeking to identify blood in this way a preliminary effort should be made to get the normal spectrum of the particular dye used on the suspected goods, this being afterwards compared with the spectrum given by the blood-stained fabric. He also believes that the modification of the hematoporphyrin test of Takayama will assist in the identification of blood on dyed fabrics.

A New Method of the Determination of the Presence of Seminal Fluid by Micro-Chemical Means.—(Michele Barberio, Nuova reazione microchimica delle sperma e sua applicazione nelle richerche medico-legali. Rendiconto delle R. Acad. delle sc. fisische e mathematiche di Napoli, Fasc, Aprile, 1905).—P. Fraenkel of Berlin in the Viertels-jahrsschrift fur gerichtliche Medizin for October, 1905, discusses this work of Barberio. He says that Barberio's directions for this test are to place upon a glass-slide a drop of semen with about half a drop of saturated solution of picric acid. Within five minutes a precipitated crystallization takes place; opaque yellow crystals, needle-like rhombs, sometimes without corners. The needles lie crosswise. The angles in the crystals are from 10 to 15 degrees. The reaction is present in seminal fluid, even though spermatozoa are not present, and it is demonstrable in dry as well as in fresh fluid. It is present even when the material is heated up to 200 degrees, but not beyond that point. No other body fluid gives this reaction, according to Barberio. The presence of blood does not influence the reaction. The nature of these crystals is not explained by Barberio. It is probably a union of the picric acid with the albuminous substance in semen, with a mucin adjuvant. Protamine probably enters into the solution of the problem of explaining this wonderful(!) reaction.

Admissibility as Evidence in Criminal Proceedings of Blood-hounds Following Trail (Nebraska Supreme Court).—Geo. W. Bratt was convicted of burglary. The Supreme Court reversed the judgment, as stated in No. 97 of the N. W. Reporter, page 593. The crucial point in this case was the admissiblity of the evidence of the conduct of blood-hounds in ollowing the trail of the burglar from the cene of the crime to the defendant's resi-ence. The court holds that the evidence was improperly submitted. The court stated that there is a prevalent belief that in the pursuit and discovery of fugitive criminals, the blood-hound is practically infallible; that it is a commonly accepted belief that he will start from a place where a crime has been committed, follow the track for miles after he has been given the scent, find the culprit, confront him, and mirabile dictu, by accusing "bay and mien" declare "Thou art the the man!" This strange misbelief is in the minds of some people apparently a deep-rooted fact, and it is a delusion which abundant actual experience has failed to dissipate. It lives on from generation to generation. It has still the attractiveness of a fresh creation. "Time writes no wrinkle on its brow. The court stated that the path of every individual from the cradle to the grave is strewn with putrescent excretions thrown off from the body and this matter is in a process of rapid decomposition. The blood-hound which has great ability for distinguishing smells follows the odor thus generated, and for a short time a man may be easily trailed in the woods or open country. But in the city, after the lapse of considerable time as in this case—about twelve hours of sun-light, where the trail is crossed by hundreds of others, the work is obviously very difficult, yet the dog does the best he can. Nice and delicate questions are time and again presented to him for decision and as to considerations which move his choice of paths, he cannot be cross-examined and the jury informed. The result of all this is that the conclusions of the dog are too unreliable to be accepted by the jury as evidence.

CORRESPONDENCE

A FEW MORE WORDS ON WHOLESALE POISONING.

It is regretful to me to note that my article in the MEDICAL FORTNIGHTLY of November 25, 1905, should have caused Dr. Wahrer to say things that come perilously near to invective. It would give me sincere cause for regret to think that anything was written therein that gave any reasonable excuse for his feeling offended. To me the subject we are discussing is too important to permit of levity, raillery or personal abuse. It is fraught with consequences that are too serious to the community to permit of any other than a conscientious and candid consideration. To know that food is the best kind of culture for disease germs of every kind, that in it they will multiply under favoring circumstances, from enough to kill one man to

enough to kill a million men within a few hours, and to know that the most positive kind of proof exists showing that epidemics have arisen from such multiplication is, or ought to be, enough to make sober men pause and consider. To know that refrigeration and preservatives are the only means at our command to check this multiplication, in fresh foods, and that refrigeration is not always available and preservatives forbidden, is to wonder at the lack of intelligent thought displayed by multitudes. Why will men not put two and two together and discover that the total is four. Why do they refuse to link these facts and discover the consequences? To find North Dakota praised to the sky for forbidding, under severe penalties, the use of preservatives, pushing the execution of this law to its fullest, and its people blindly being led into a ditch of death and destruction which their own official statistics, given by their own board of health, reveals, is, to say the least, depressing. Did the North Dakota Board of Health deliberately falsify its death rates in order to cast discredit on its very popular dairy and food commissioner. They show that since Prof. Ladd has had a full swing, with his new law and new powers, the number of deaths in that state has increased over 66 per cent. To nearly double the number of deaths in a state, in so short a time, is great work for one man and a legislature of farmers to accomplish. To find the Vital Statistics of the United States Government declaring after Wisconsin's brilliant crusade of this same kind its grand division death rate, from diseases of the digestive system—diseases that are food borne—was not only the highest, but by far the highest of any of the other twenty grand divisions of the United States is important. Its rate was nearly double that of the North Pacific Coast region. As Dr. Wahrer lives in Wisconsin*, perhaps he can tell us whether the statisticians of the government have wilfully sought to defame his region and its pure food efforts. To discover that Germany, seeking to favor its farmers as against the farmers of the United States, adopted a law like that of North Dakota and that, soon after its enforcement began, its death rate, in diseases of the digestive system, at once rose 40 to 60 per cent, is to wonder at the uniformity of such results. Many other just as remarkable statistical facts are available and the official records with volume and page can be cited, when called for. It requires something more than a sneer for an explanation of such figures, though all that the foes of preservatives are as yet willing to give, is a sneer.

*By a misprint, Dr. Wahrer's residence was given as Wisconsin in a recent issue of this magazine, when it should be Fort Madison, Iowa.—Ed.

In my article I asked Dr. Wahrer for bread—the bread of facts—and here is what he has given me: "He (referring to this writer) closes with a burst of enthusiasm which leads me to think that he came very near convincing himself of what he was writing." Frankly now, Dr. Wahrer, on your rereading this sentence are you not heartily ashamed of it, and do you not wish you had never written it? I have a good enough opinion of you to believe this to be the case. You certainly must know that such departures from serious reasoning are but frank confessions of inability to meet the positions of your adversary.

The doctor tells me that he read my article through carefully, and adding "more carefully than I think Dr. Eccles read mine." Then he goes on to accuse me of advocating the following: (1) "Vigorous opposition to pure food laws and their enforcement;" (2) "disbelief in adulteration of food sold at standard prices;" (3) "a sweeping defense of the use of preservatives without regard to kind and quantity;" (4) not seeing "any crime in the substitution of an inferior article for a superior one, as long as the inferior is harmless to health;" (5) "the use of fraudulent labels * * is not only condoned but defended;" (6) stooping to defend practices that play football with not my logic alone, but my "moral sense;" (7) defending dishonesty; (8) classifying those who seek to force upon us pure food as "scoundrels," and (9) being sorry that "thieves are being punished." Now I would be pleased to have the doctor point out a single passage in my article, or for that matter in anything I have ever written, that supports him in any but one of these charges. I hardly think it is even necessary for me to deny them or to characterize the entire batch, with one exception, as the dreamy imaginings of the doctor's own brain. The intelligent readers of the Medical Fortnightly must remember, if Dr. Wahrer does not, that I distinctly stated that "The present writer, while sincerely opposing adulteration as a crime to be suppressed, regrets being unable to agree with Dr. Wahrer," and again, "It (the Department of Agriculture) should try to discover the exact limits of safety in which preservatives can be used, and then have a law passed giving its representatives the power to condemn all food which transcends these safe limits." On the matter of adulterating I say: "Of course there is adulterating going on. There never was a time in this world when there was not. It is therefore easy enough to find genuine adulteration if we seek it."

In reply to his points let me say: (1) I

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have never opposed having an honest pure food law, nor have I opposed the just enforcement of such laws as exist. I have opposed proposed laws that violated human rights and objected to the punishing, by fines and imprisonment, of men who were every whit as honest as either Dr. Wahrer or myself. If the doctor, or his brother, had happened to be victims of such laws I would have opposed them for his sake. (2) I believe and distinctly state that there is some adulteration of food at standard prices, but I object to the wholesale condemnation of merchants because there is an occasional rogue among them. (3) I make no sweeping defense of the use of preservatives without regard to kind or quality. I prepared and presented to the Congressional Committee on Standards what Professor Wiley and Professor Frear pronounced the first attempt they had seen at a classification of preservatives as regards how their use should be regulated. It called for a dose use from which neither salt, sugar, nor smoke could be exceptions. It put all substances used as preservatives on a common and honest footing that showed no favors to any. It is absurd to allow vinegar, salt, sugar and smoke to be used in amounts of greater potency than of any other preservative. Make potency the test and punish the user of vinegar who transcends that test with exactly the same severity as the one who transcends it in benzoic or salicylic acid. (4) I distinctly see a crime, and a most serious one, in the substitution of an inferior article for a superior one. I emphatically declare that adulteration is a crime to be punished. Harmlessness has nothing to do with it. I can see a similar crime in the substitution of exaggeration for honest facts in defending a fad. (5) I neither condone nor defend the use of fraudulent labels, and am bitterly opposed to State laws that compel merchants to put false labels on their goods in order to prejudice an ignorant public against them. The merchants are not the only ones guilty of such fraud. The pure food advocates make it a crime, in some states, to use an honest, truthful label. They insist upon a label that will prejudice the ignorant against the goods. (6) I think my moral sense is quite as keen as that of Dr. Wahrer. If I am to be classed as a moral degenerate by him because I fight for honesty, fair play, and truthfulness on every side of the game, and not on my antagonists alone, then I must continue to humbly bear the opprobrium. (7) I have never defended dishonesty. My whole fight is for honesty. I want it on both sides. I am heart-sick of the clap-trap of pretended advocates of pure food, and equally heart-sick of the villainous charlatans of commerce. (8) Dr. Wiley, Prof. Frear, Prof. Ladd, and even Dr. Wahrer, surely can be opposed by me without their having the slightest cause for believing me to look upon them as "scoundrels." I know the two first named gentlemen personally, the first I have known for about eighteen years, and I have not the slightest hesitation in declaring that there are not another two more honorable and honest men among all my acquaintances. I do not believe they are right on this subject, and they are quite sure that I am wrong. In the struggle for existence one or other of our opinions will survive. I believe it it will be mine. (9) Unfortunately I must confess to being sorry when even thieves are punished. I never could take pleasure in knowing that any one was being punished. I feel by the punished thief as I do by my suffering patient when I thrust a bistoury or lance into a deep-seated periostitis. It is a weakness of mine. But I suffer agony when I see and learn of the myriad cases of punishment inflicted upon honest merchants for selling goods that, from the standard of true sanitary science, are superior to those being disposed of by their neighbors who escape such punishment. Thousands are being thus sacrificed today to an ignorant public opinion that future men and women will feel for as I do now. "Oh for the rarity of Christian charity under the sun." If there was more charity there would be less suspicion. If there was more charity there would be a greater inclination to learn just why others differ from us in opinion and why business men appear, from our standards, to be doing what they should not do. If there was more charity there would be less such encouragement of those who seek to suppress honest opinion than is manifested in a sentence that reads: "If he had not been capable of writing an apparently clever and convincing argument, it is safe to assume that he would not have had the privilege of writing it at all." Are we to understand from this that the doctor thinks the editor did wrong in letting my side of the subject be heard at all?

I hope that Dr. Wahrer and all the readers of this communication, will unite in fighting for a just and honest pure food law. What is wanted is one that will be fair to every industry, fair to the public, fair to progress, and that honestly expresses what it means instead of hiding a subtle and unjust intent in a complex definition which but few readers understand. Let us fight for a truthful label that will tell us exactly what we are buying. Let us fight together for the suppression of any substance that is used of any greater potency than some agreed stand-

ard to which everything must submit. If vinegar* should be chosen as the standard substance it is safe to assume that there would be no desire on the part of any one to exceed the standard. It is without doubt the most dangerous and most poisonous of all preservatives. Its dose, as fixed by all authorities, is considerably smaller than any of the ordinary preservatives. Let us have a scientific, and not a whimsical standard. Let it apply with absolute impartiality to everything. The United States Pharmacopoeia now gives the doses of all the substances under consideration. Make its doses the representative potency of each article and fix a definite fraction of these doses as the maximum amount that the law will permit to be used. Make the users of salt, of mustard, of vinegar, of spices, of sugar, of alcohol, of creosote in smoke, of benzoic acid, of salicylic acid, of formaldehyde, of boric acid, adhere to the same fraction of their respective doses in each pound of food. To condemn one preservative and permit another is to force manufacturers to either seek to evade the law or buy up legislators to favor their product and condemn that of some one else. Permit both perserved and unpreserved food to be sold, side by side, in open market. Label each true to its composition. Let the best one win on its own merits. Stop the criminal lying about poisoning. Let the public know that the benzoated, salicylated, salted, sugared, alcoholized, and acetacised foods are all equally poisonous with the salted and smoked ones and no more. What right has any set of men to keep out of the market formaldehyded or salicylated goods when I want and prefer them to the salted, smoked, or acetacized? Is my liberty to the pursuit of happiness and the enjoyment of life not as precious to me as to those who seek to compel me to eat only what they allow?

R. G. Eccles, M.D.

Brooklyn, N. Y., December 28, 1905.

If an incised wound in the soft parts does not heal as rapidly as it should, examine the urine for sugar.

Tubercular Nasal Ulcers.—These are usually on the septum, are whitish-gray and shallow, bleeding readily. They are accompanied by infiltrated elevations. Tubercle bacilli can be found in the scrapings. For these, as well as for lupous ulcers extending from the exterior, Levy advises curetting and the application of concentrated lactic acid.

*As acetic acid

SOCIETY PROCEEDINGS

MEDICAL SOCIETY OF THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL.

Stated meeting held December 4, 1905. The President, Dr. J. J. MacPhee, in the chair.

ATRESIA OF THE BOWEL.

Dr. J. E. Fuld showed this specimen. The child was born normally, at full term, and on the morning of the third day vomited material which looked like meconium. It had not defecated since birth, and refused the breast. Physical examination showed a well-formed, healthy baby, with no outward deformities. The abdomen presented marked lateral and median distention, but no signs of hernia. Examination with a large sized Kelly cystoscope showed a distinct narrowing of the lumen of the bowel between 1½ and 1¾ inches from the anus. In the center of the narrowest part a small dimple was distinctly visible, and through this a uterine sound was introduced with some difficulty for about 1¼ inches. No mass could be felt in the pelvis. A diagnosis of atresia recti was made, and iliostomy was performed under chloroform anesthesia. A median incision two inches long was made below the umbilicus, and in trying to get into the peritoneal cavity the much distended bladder, which resembled the parietal peritoneum, was nicked and considerable urine escaped. An artificial anus was made in the lowest part of the ileum, which was packed off and surrounded with gauze. The patient left the table in a fair condition, but was not relieved by the operation, and died thirteen hours later.

Post-mortem examination showed the small intestine to be full of meconium and considerably distended. The pylorus was distinctly thickened for a distance of about three-fourths of an inch, making a firm ring, and producing a slight stenosis. Section through the thickened tissue showed very marked increase of the muscular layer. At the normal end of the ileum, instead of the normal valve there was complete closure. Beyond this the large bowel was patent throughout, communicating below with the rectum. In the center of the septum was a dimple, corresponding to the ileocecal valve. The large bowel was the size of an adult ureter, and the cecum was about three-fourths of an inch in length and about twice the size of the sigmoid colon.

SPONTANEOUS RUPTURE OF THE UTERUS DURING PREGNANCY.

Dr. L. J. Ladinski showed a uterus and adnexa which he had removed from a patient about a week before. The history given was that pregnancy followed four years after operation at the Polyclinic Hospital, and just prior to impregnation there was chronic endometritis with mattery discharge. Examination through the vagina during the fourth month of pregnancy showed the uterus to be adherent, but there was no deformity in size, form or position. Three days before operation a small blood spot was noticed, and the speaker advised absolute rest in bed and morphin. There was no further showing of blood, but the following day the patient complained of pain in her back, and two days later she collapsed. Her pulse was rapid and almost imperceptible at times, and she had intense pallor and rapid respiration. Her abdomen was distended, not in the shape of a dome, but over its entire surface. A diagnosis of ruptured abdominal pregnancy was made, and immediate operation advised. When the patient was placed on the operating table the fetus was found in its sac, floating about in the abdomen. There was a large rent in the uterus. The patient made a good recovery.

Uterine rutpure during pregnancy is rare, and must not be confounded with rupture during labor. The most frequent cause for the former is the giving way of the scar of a previous Cesarean section, or of the connective tissue formed after a deep curettage. In the case described, one portion of the posterior wall of the uterus was as thin as paper. If a history of the operation performed four years before could be obtained it would assist in determining the cause of this condition.

Dr. B. Torrens said that possibly the patient was the same as one on whom he had operated about four years ago at the Polyclinic Hospital. On inserting the curette into the uterine cavity, it was found that the instrument entered the abdominal cavity through an opening in the anterior uterine wall. It was immediately withdrawn, and digital examination showed two perforations of the wall, with about one inch of connective tissue separating them. Each of the openings was large enough to admit the passage of two fingers. The uterus was packed with iodoform gauze, the cul-de-sac of Douglas was opened, and the small intestine was found adherent to the anterior uterine wall at the site of perforation. This was detached and the pelvis packed with gauze. The patient made an uneventful recovery.

Dr. R. H. M. Dawbarn said that this case reminded him of an instance in which he made a diagnosis of abdominal rupture of pregnancy, even going so far as to determine the position of the fetus. There was some bleeding from the uterus, which was enlarged and quite soft. The abdomen, when opened, allowed the escape of a very great amount of bloody material, and this being removed, it was seen that all of the viscera, the bowels especially were covered with a new growth which proved to be sarcoma, the largest clump of which had been mistaken for the fetus.

DERMOID CYST.

Dr. Dawbarn showed a dermoid cyst which he had removed a week previously from a girl nine years of age. The dermoid was much larger than the average specimen of its kind. There was a history of half a dozen paroxysms of pain, and when the specimen was removed the pedicle was found to be twisted upon itself a great many times. Apparently this had occurred coincidently with the pain, and of course had occasioned hemorrhage of the sac. The solid portion of the cyst was about the size of a small egg and was filled with teeth and bones.

TENDON TRANSPLANTATION IN THE FOREARM.

This patient was presented by Dr. J. A. Bodine. He was a butcher by trade, and was on the top of a high stepladder when he slipped and caught at a large meat hook on the side of the wall. The hook penetrated the forearm at the base of the thumb, picking up the three tendons on the radial side —the two tendons forming the anatomical snuff box and that of the supernator longus. He swung from this hook with his entire weight of 170 pounds. The tendons did not break, but pulled loose from their attachments to the muscles in the forearm, one of them hanging down for twelve inches. He wrapped his butcher apron around the forearm and tendons and in a few hours was on the operating table. The tendons were identified and two of them passed through the canal in the anterior ligament of the wrist and sutured in their proper positions. The loose tendon of the supernator longus, however, was so long that opening of the muscular planes of the forearm, near the elbow, would have been necessary in order to stitch it in place. It was, therefore, thought best to transplant it into the tendons of the extensor primi internodii pollicis. The wound healed kindly and the patient can now do with this thumb all that he can do with the other one.

VARICOSE VEINS OF THE LOWER LIMB.

This patient was also presented by Dr. Bodine. Of middle life, she presented for operation the worst type of this condition. Great masses of infected thrombi were present on the inner side of the leg. Three weeks' rest in bed, with ice bags, etc., was insisted upon, until all inflammation and sepsis had disappeared. She was then operated upon. It is the speaker's belief that when the Trendelenberg operation cannot be utilized the only other to be recommended is that of excision of the entire internal saphenous vein, because if the blood current in the vein is cut by any other operation, the walls of the useless vein may become a foreign body and require removal. The operation recommended by the speaker is that of Caseta in which the entire vein is removed through three or four small cuts in the overlying skin, the vein being pulled out subcutaneously, the numerous tributary vessels being torn across, but not ligated. At the junction of the middle with the lower third of the leg, the skin and subcutaneous fascia are then cut through to the muscles, the cut encircling the entire limb. After this operation the patient is usually in the hospital for two weeks. In every one of the twenty cases in which the speaker had operated according to this method the cure had been perfected.

The paper of the evening, entitled

SURGICAL HERESY,

was read by Dr. John A. Bodine. He said in part:

The first slipping away from the faith of our forefathers was in "Where and How to Amputate" No article in textual creed is stronger than, "Save all you can in amputations." The various and multiform amputations through the complex tarsus and metatarsus bones are the result of the necessity for speed before the advent of anesthesia. This golden rule was also strengthened by the argument that in amputations the nearer the trunk the greater the death rate, and still further bed-rocked in the belief of the patient that the less of his anatomy lost, the less a cripple he was. The advent of skilled prosthetic surgery has done away with peg legs and crutches for the unfortunate victims of amputations, and today instead of traditional anatomic and sentimental arguments, one should be guided by a new article of faith: "Amputate where the limb maker can best supply the loss." Save all you can from tip of toe to the tarso-metatarsal joint, and discard every one of the many technical amputations through the tarsus in favor of the Syms' amputation at the ankle joint. There is weighty prosthetic evidence that even this point of amputation should be discarded in favor of removal seven inches above the ground line. There is but one American firm of limb-makers which claims it can fit partial foot amputations with a satisfactory appliance, and even it admits that the advantage is chiefly economic, the apparatus costing less than in the case of higher amputations.

After leaving the point seven inches above the ground line, the rule of save every inch possible holds good until within two inches of the knee-joint. In amputations of the thigh above this point, one should save every inch possible.

In the event of future improvements in artificial substitutes, nullifying the potency of the speaker's argument, he submitted that in partial foot amputations the technical and complicated textual amputations should be discarded and the foot treated as one bone, the rule then being, "Save all you can from toe to hip joint."

Dr. F. M. Jeffries, in discussing the paper, said that so far as Dr. Bodine's remarks concerned the laboratory, he must agree with him in the main, but some of his assertions he could not coincide with. With regard to cancer, he felt that if the pathologist's report is that of cancer, no matter what the clinical findings might be the surgeon should proceed on the assumption that it is malignant in character. Regarding appendicitis, it is generally known that hematology is not the useful diagnostic aid that at one time it was hoped it would be, nevertheless, instances were on record in which it had been of service.

THE MEDICAL FORTNIGHTLY

A Cosmopolitan Biweekly for the General Practitioner

The Medical Fortnightly is devoted to the progress of the Practice and Science of Medicine and Surgery. Its aim is to present topics of interest and importance to physicians, and to this end, in addition to a well-selected corps of Department Editors, it has secured correspondents in the leading medical centers of Europe and America. Contributions of a scientific nature, and original in character, solicited. News of Societies, and of interesting medical topics, cordially invited.

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MEDICAL MEMORANDA.

I cannot get along without nuclein. It's a wonderful remedy.—Dr. J. S. D. ....., Nebr.

A good remedy for relaxation of the womb and its appendages is aletris cordial (Rio); it strengthens the uterine organs and at the same time corrects the co-existing general weakness.

Best Results than from Any Combination.—I must say that neurosine has given better results and more universal satisfaction than any combination ever used by me. I have tried it in many nervous affections and in epilepsy of long standing. In some it is a specific, in others a therapeutic agent of great value.—W. L. Gahagan, M. D., coroner of Hamilton county, Chattanooga, Tenn.

Pneumonia is now running riot throughout the winter-visited world. Physicians everywhere are putting forth their best efforts to overcome the evil effects of this disease, which is even more deadly than the great white plague. The physician who covers the thoracic walls—front, sides and back—of his pneumonia patients with antiphlogistine, is the one who is actually giving his patients the very best chance of recovery. No method of external application—be it ice, hot water. turpentine, or what not—has commenced to yield the beneficial results obtained from the proper application of antiphlogistine.

Huston Brothers Co.—We would call the attention of our readers to the advertisement of the Huston Brothers Co. that appears in this issue. There would really appear to be many points of distinct advantage in the electrical cabinets manufactured by this firm, and we strongly advise all our readers, who are at all interested, to write for their catalogue. It has only recently come to our knowledge that the millionaire Armour family selected one of Huston's electric cabinets in preference to all others for the treatment of Lolita, the famous little patient of Dr Lorenz during his recent visit in this country. Although the Huston cabinets undoubtedly would appear to be the best on the American market, their prices are by no means the highest. Huston Brothers have recently issued a very neat, compact, little catalogue to cover this special line of goods Even if you do not think of purchasing a cabinet right away, you should at least have a catalogue so that you may get posted.

Carabana recently admitted to the domain of therapeutics, has, at a bound, jumped into the first place. A mildness and certainty of its purgative action, smallness of dosage, a few contra-indications contribute to make it useful, not only as a remedy, but also as a means of diagnosis. It produces, when used as a purgative, a number of abundant, regular passages without griping. If taken in small doses for several days, continuously, it does not cause gastric or intestinal disturbances as do waters of analagous composition. In the diseases of my clinic I have had splendid results from its use; as a resolvent in chronic inflammatory affections of the prostate and vesicles, in gonorrhea; in inflammation and conjestions of the cervix uteri and in leucorrhea, carabana, taken in small doses, combined with injections and douches, speedily effects a cure. In scrofulous, glandular and cutaneous manifestations, especially in eruptions of the face and skin, have I met with success by using carabana locally and administering it in small doses. It is desirable that its employment become general, as the indications for its use, derived from a study of its chemical composition, become greater from day to day."—Prot. M. S. B,

Treatment of the Throat.—Dr. E. Jay Fisk, Troy, N. Y., uses eusoma in the treatment of all forms of irritation of the throat, and states that even in follicular tonsillitis he has been surprised, as well as pleased, with the prompt and satisfactory results which he has obtained from its use. Dr. Fisk prescribes eusoma as a local application in these cases, and almost without exception, immediate relief from unpleasant symptoms is obtained. Dr. Fisk also states that he gives eusoma internally in irritative disease of the skin, supplementing its internal use by the external application of the same remedy. Dr. Fisk's experience is confirmatory of that of other physicians who have studied the clinical use of echinacea. Dr. A. B. Matthews, of Elberton, Ga., in an article published in the Georgia Practitioner, May 15, 1905, states "that it promotes the flow of saliva with feeling of well-being in the stomach, and is slightly diaphoretic, increasingly if continued. The action of the kidneys and whole glandular system seems to stimulate under its influence. The stomach is improved in its function, the appetite increases, food is more perfectly digested, the bowels operate better and absorption and assimilation and general nutrition are in every way improved. It encourages secretions and excretions and in this manner prevents any further autoinfection and quickly relieves the system of any that is present. Eusoma is simply echinacea combined with the adjuvants, thuja and baptisia, and is without doubt the most reliable preparation of echinacea upon the market. Each fluid dram of eusoma contains 15 grains of echinacea, 2 grains of thuja and 4 grains of baptisia. The Eusoma Pharmaceutical Co., of Cincinnati, have collected a large amount of information with regard to echinacea, which they will be glad to mail to any physician requesting it.

R. L. MAUPIN, President.

J. A. NORTON, Secretary.
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